Logical conditions of a scientific treatment of morality

Dewey John
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§1. THE USE OF THE TERM "SCIENTIFIC"

The familiar notion that science is a body of systematized knowledge will serve to introduce consideration of the term "scientific" as it is employed in this article. The phrase "body of systematized knowledge" may be taken in different senses. It may designate a property which resides inherently in arranged facts, apart from the ways in which the facts have been settled upon to be facts, and apart from the way in which their arrangement has been secured. Or, it may mean the intellectual activities of observing, describing, comparing, inferring, experimenting, and testing, which are necessary in obtaining facts and in putting them into coherent form. The term should include both of these meanings. But since the static property of arrangement is dependent upon antecedent dynamic processes, it is necessary to make explicit such dependence. We need to throw the emphasis in using the term "scientific" first upon methods, and then upon results through reference to methods. As used in this article, "scientific" means regular methods of controlling the formation of judgments regarding some subject-matter.

The transition from an ordinary to a scientific attitude of mind coincides with ceasing to take certain things for granted and assuming a critical or inquiring and testing attitude. This transformation means that some belief and its accompanying statement are no longer taken as self-sufficing and complete in themselves, but are regarded as conclusions. To regard a statement as a conclusion, means (1) that its basis and ground lie outside of itself. This reference beyond itself sets us upon the search for prior assertions which are needed in order to make this one, i.e., upon inquiry. (2) Such prior statements are considered with reference to their bearings or import in the determination of some further statement, i.e., a consequent. The meaning or significance of a given statement lies, logically, in other statements to which we are committed in making the one in question. Thus we are set upon reasoning, the development of the assertions to which a particular assertion or view commits and entitles us. Our attitude becomes scientific in the degree in which we look in both directions with respect to every judgment passed; first, checking or testing its validity by reference to possibility of making other and more certain judgments with which this one is bound up; secondly, fixing its meaning (or significance) by reference to its use in making other statements. The determination of validity by reference to possibility of making other judgments upon which the one in question depends, and the determination of meaning by reference to the necessity of making other statements to which the one in question entitles us, are the two marks of scientific procedure.
So far as we engage in this procedure, we look at our respective acts of judging not as independent and detached, but as an interrelated system, within which every assertion entitles us to other assertions (which must be carefully deduced since they constitute its meaning) and to which we are entitled only through other assertions (so that they must be carefully searched for). "Scientific," as used in this article thus means the possibility of establishing an order of judgments such that each one when made is of use in determining other judgments, thereby securing control of their formation.

Such a conception of "scientific," throwing the emphasis upon the inherent logic of an inquiry rather than upon the particular form which the results of the inquiry assume, may serve to obviate some of the objections which at once suggest themselves when there is mention of a science of conduct. Unless this conception is emphasized, the term "science" is likely to suggest those bodies of knowledge which are most familiar to us in physical matters; and thus to give the impression that what is sought is reduction of matters of conduct to similarly physical or even quasi-mathematical form. It is, however, analogy with the method of inquiry, not with the final product, which is intended. Yet, while this explanation may preclude certain objections, it is far, in the present state of discussion, from removing all objections and thus securing a free and open field. The point of view expressly disclaims any effort to reduce the statement of matters of conduct to forms comparable with those of physical science. But it also expressly proclaims an identity of logical procedure in the two cases. This assertion will meet with sharp and flat denial. Hence, before developing the logic of moral science, it is necessary to discuss the objections which affirm such an inherent disparity between moral judgments and physical judgments that there is no ground in the control of the judging activity in one case for inferring the possibility of like control in the other.

§ 2. THE POSSIBILITY OF LOGICAL CONTROL OF MORAL JUDGMENTS

In considering this possibility, we are met, as just indicated, by an assertion that there is something in the very nature of conduct which prevents the use of logical methods in the way they are employed in already recognized spheres of scientific inquiry. The objection implies that moral judgment is of such character that nothing can be systematically extracted from any one which is of use in facilitating and guaranteeing the formation of others. It denies, from the logical side, the continuity of moral experience. If there were such continuity, any one judgment could be dealt with in such a way as to make of it a conscious tool for forming other judgments. The ground of denial of continuity in moral experience rests upon the belief that the basis and justifying principle of the ethical judgment is found in transcendental conceptions, viz., considerations that do not flow from the course of experience as that is judged in terms of itself, but which have a significance independent of the course of experience as such.
The assertion of such logical disparity assumes a variety of forms, all coming back to pretty much the same presupposition. One way of putting the matter is that ethical judgments are immediate and intuitive. If this be true, an ethical judgment cannot be considered a conclusion; and hence there can be no question of putting it into orderly intellectual (or logical) relations with other like judgments. A merely immediate judgment is, by the nature of the case, incapable of either intellectual rectification or of intellectual application. This view finds expression in popular consciousness in the notion that scientific judgments depend upon reason, while moral valuations proceed from a separate faculty, conscience, having its own criteria and methods not amenable to intellectual supervision.

Another way of affirming radical disparity is that scientific judgments depend upon the principle of causation, which of necessity carries with it the dependence of one phenomenon upon another, and thus the possibility of stating every fact in connection with the statement of some other fact; while moral judgments involve the principle of final cause, of end and ideal. Hence to endeavor to control the construction and affirmation of any content of moral judgment by reference to antecedent propositions is to destroy its peculiar moral quality. Or, as it is popularly expressed, ethical judgment is ethical just because it is not scientific; because it deals with norms, values, ideals, not with given facts; with what ought to be, estimated through pure spiritual aspiration, not with what is, decided after investigation.

Pretty much the same point of view is expressed when it is said that scientific judgments, as such, state facts in terms of sequences in time and of co-existences in space. Wherever we are dealing with relations of this sort, it is apparent that a knowledge of one term or member serves as a guide and check in the assertion of the existence and character of the other term or member. But moral judgments, it is said, deal with actions which are still to be performed. Consequently in this case characteristic meaning is found only in the qualities which exist after and by means of the judgment. For this reason, moral judgment is thought essentially to transcend anything found in past experience; and so, once more, to try to control a moral judgment through the medium of other judgments is to eliminate its distinctive ethical quality. This notion finds its popular equivalent in the conviction that moral judgments relate to realities where freedom is implicated in such a way that no intellectual control is possible. The judgment is considered to be based, not upon objective facts, but upon arbitrary choice or volition expressed in a certain sort of approval or disapproval.

I have no intention of discussing these points in their full bearing. I shall reduce them to a single logical formulation, and then discuss the latter in its most general significance. The justification of the single statement as a formulation of the objections just set forth (and of other like ones) will not be attempted, for further discussion does not turn upon that point. When generalized, the various statements of the logical gulf between the moral judgment and the scientific reduces itself to an assertion of two antinomies: one, the separation between the universal and the
individual; the other, between the intellectual and the practical. And these two antinomies finally reduce themselves to one: Scientific statements refer to *generic conditions* and relations, which are therefore capable of complete and objective statement; ethical judgments refer to an *individual act* which by its very nature transcends objective statement. The ground of separation is that scientific judgment is universal, hence only hypothetical, and hence incapable of relating to acts, while moral judgment is categorical, and thus individualized, and hence refers to acts. The scientific judgment states that where some condition or set of conditions is found, there also is found a specified other condition or set of conditions. The moral judgment states that a certain end has categorical value, and is thus to be realized without any reference whatsoever to antecedent conditions or facts. The scientific judgment states a connection of conditions; the moral judgment states the unconditioned claim of an idea to be made real.

This formulation of the logic of the problem under consideration fixes attention upon the two points which are in need of discussion. First: Is it true that scientific judgment deals with contents which have, in and of themselves, a universal nature—that its whole significance is exhausted in setting forth a certain connection of conditions? Secondly: Is it true that the attempt to regulate, by means of an intellectual technique, moral judgments—which, of course, are thoroughly individualized—destroys or in any way lessens distinctively ethical value?

In discussing the two questions just propounded, I shall endeavor to show: I shall endeavor to show that scientific judgments have all the logical characteristics of ethical judgments; since they refer (1) to individual cases, and (2) to acts. I shall endeavor to show that the scientific judgment, the formulation of a connection of condition, has its origin, and is developed and employed for the specific and sole purpose of freeing and reinforcing acts of judgment that apply to unique and individual cases. In other words, I shall try to show that there is no question of eliminating the distinctive quality of ethical judgments by assimilating them to a different logical type, found in so-called scientific judgments; precisely because the logical type found in recognized scientific judgments is one which already takes due account of individualization and activity. I shall, then, endeavor to show that individualized ethical judgments require for their control generic propositions, which state a connection of relevant conditions in universal (or objective) form; and that it is possible to direct inquiry so as to arrive at such universals. And finally, I shall briefly set forth the three typical lines along which the construction of such generic scientific propositions must proceed, if there is to be a scientific treatment of ethics.

§3. NATURE OF SCIENTIFIC JUDGMENTS

The proposition that scientific judgments are hypothetic because they are universal is almost commonplace in recent logical theory. There is no doubt that there is a sense in which this proposition states an unquestioned truth. The aim of science is law. A law is adequate in the degree in which it takes the form, if not of an equation,
at least of formulation of constancy, of relationship, or order. It is clear that any law, whether stated as formulation of order or as an equation, conveys, in and of itself, not an individualized reality, but a certain connection of conditions. Up to this point there is no dispute. When, however, it is argued that this direct and obvious concern of science with generic statements exhausts the logical significance of scientific method, certain fundamental presuppositions and certain fundamental bearings are ignored; and the logical question at issue is begged. The real question is not whether science aims at statements which take the form of universals, or formula of connection of conditions, but how it comes to do so, and what it does with the universal statements after they have been secured.

In other words, we have, first, to ask for the logical import of generic judgments. Accordingly, not questioning the importance of general formula as the objective content of the sciences, this section will endeavor to show that such importance lies in the development of "sciences" or bodies of generic formulae as instrumentalities and methods of controlling individualized judgments.

1. The boast and pride of modern science is its distinctly empirical and experimental character. The term "empirical" refers to origin and development of scientific statements out of concrete experiences; the term "experimental" refers to the testing and checking of the so-called laws and universals by reference to their application in further concrete experience. If this notion of science be correct, it shows, without further argument, that generic propositions occupy a purely intermediate position. They are neither initial nor final. They are the bridges by which we pass over from one particular experience to another; they are individual experiences put into such shape as to be available in regulating other experiences. Otherwise scientific laws would be only intellectual abstractions tested on the basis of their own reciprocal consistencies; and the trait which is supposed to demarcate science from medieval speculation would at once fade away.

Moreover, if the generic character of propositions of physical and biological sciences were ultimate, such propositions would be entirely useless from a practical point of view; they would be quite incapable of practical application because they would be isolated from intellectual continuity with the particular cases to which application is sought. No amount of purely deductive manipulation of abstractions brings a resulting conclusion any nearer a concrete fact than were the original premises. Deduction introduces in regular sequence new ideas, and thus complicates the universal content. But to suppose that by complicating the content of a universal we get nearer the individual of experience is the fallacy at once of mediæval realism and of the ontological argument for the existence of God. No range of synthesis of universal propositions in chemistry, physics, and biology would (if such propositions were logically self-sufficing) assist us in building a bridge or in locating the source of an epidemic of typhoid fever. If, however, universal propositions and their deductive synthesis are to be interpreted in the sense of the manufacturing and employing of intellectual tools
for the express purpose of facilitating our individual experiences, the outcome is quite other.

The empirical origin, the experimental test, and the practical use of the statements of science are enough of themselves to indicate the impossibility of holding to any fixed logical division of judgments into universal as scientific, and individual as practical. It suggests that what we term science is just the forging and arranging of instrumentalities for dealing with individual cases of experience—cases which, if individual, are just as unique and irreplaceable as are those of moral life. We might even say that the very fact which leads us upon a superficial view into believing in the logical separation of the generic judgment from the individual, viz., the existence of a large and self-contained body of universal propositions, is proof that as to some individual experiences we have already worked out methods of regulating our reflective transactions with them, while for another phase of experience this work remains to be done; i. e., is the problem of current ethical science.

The consideration of the technique by which the desired end of control is accomplished does not belong here. It suffices to note that the hypothetic judgment is a most potent instrumentality. If we inhibit the tendency to say, "This, A, is B," and can (1) find ground for saying, "Wherever there is mn there is B," and can (2) show that wherever there is op there is mn, and (3) have a technique for discovering the presence of op in A, we shall have warrant for identifying This, A, as B, even if all the outward and customary traits are lacking, and even if This, A, presents certain traits which, without the mediation of a generic proposition, would have inevitably led us to identify it as C. Identification, in other words, is secure only when it can be made through (1) breaking up the analyzed This of naive judgment into determinate traits, (2) breaking up the predicate into a similar combination of elements, and (3) establishing uniform connection between some of the elements in the subject and some in the predicate. All judgments of everyday life, and indeed all judgments in such sciences as geology, geography, history, zoology, and botany (all sciences that have to do with historic narration or with description of space coexistences), come back ultimately to questions of identification. Even judgments in physics and chemistry, in their ultimate and concrete form, are concerned with individual cases. Of all the sciences, mathematics alone is concerned with pure general propositions—hence the indispensable significance of mathematics as a tool for all judgments of technology and of the other sciences. It also is true in all the arts, whether commercial, professional, or artistic, that judgments reduce themselves to matters of correct identification. Observation, diagnosis, interpretation, and expert skill all display themselves in transactions with individual cases as such.

2. Thus far we have seen that the importance of generic statements in science is no ground for assuming a disparity in their logic from that of a scientific treatment.
of conduct. Indeed, since we have found that generic propositions originate, develop, and find their test in control of individual cases, the presumption is of similarity rather than of dissimilarity. Can we extend the parallelism farther? Does it apply equally well to the other characteristic trait of ethical judgment, viz., its reference to an act?

Just as modern logic has seized upon the hypothetic and universal character of scientific statements, relegating their bearing upon individual judgments into the background (but in truth so relegating them only because that bearing is always taken for granted), so modern logic has emphasized the aspect of content in judgment at the expense of the act of judging. I shall now try to show, however, that this emphasis also occurs because reference to act is so thoroughly taken for granted that it is possible to ignore it—that is, fail to give it explicit statement. I shall try to show that every judgment must be regarded as an act; that, indeed, the individual character of judgment proper, which has just been brought out, means, in final analysis, that the judgment is a unique act for which there is no substitute.

Our fundamental point is the control of the content or meaning which is asserted in any given judgment. How can such control be obtained? So far we have spoken as if the content of one judgment might be elaborated simply by reference to the content of another—particularly as if the content of an individual judgment, a judgment of identification, might be secured by reference to the content of a universal or hypothetic proposition. In truth, there is no such thing as control of one content by mere reference to another content as such. To recognize this impossibility is to recognize that the control of the formation of the judgment is always through the medium of an act by which the respective contents of both the individual judgment and of the universal proposition are selected and brought into relationship to each other. There is no road open from any generic formula to an individual judgment. The road leads through the habits and mental attitudes of the one concerned in judging. The universal gets logical force, as well as psychical reality, only in the acts by which it is invented and constructed as a tool and then is employed for the purpose for which it was intended.

I shall accordingly try to show that activity shows itself at every critical point in the formation of judgment: (a) that it shows itself in the genesis of the generic or universal employed; (b) that it shows itself in the selection of the particular subject-matter which is judged; and (c) that it shows itself in the way in which the validity of the hypothesis is tested and verified, and the significance of the particular subject-matter determined.

(a) So far we have assumed the possibility of building up and selecting for use some generic principle which controls the identification reached in an individual case. We cannot, that is to say, regulate judgments of the type, “This is typhoid,” or, “That is Bela’s comet,” unless we have certain generic concepts, which are defined as connection of particular conditions, and unless we know when and how to select from the stock of such concepts at our disposal the particular one required. The entire science considered as a body of formulae having coherent relations to one
another is just a system of possible predicates— that is, of possible standpoints or methods to be employed in qualifying some particular experience whose nature or meaning is not clear to us. It furnishes us with a set of tools from which choice has to be made. The choice, of course, depends upon the needs of the particular facts which have to be discriminated and identified in the given case—just as the carpenter decides, on the basis of what he is going to do, whether he will take a hammer, a saw, or a plane from his tool-chest. One might as well suppose that the existence of possible candidates for office, plus the mathematically possible combinations and permutations of them, constitutes an election of one of them to office, as to suppose that a specific judgment follows from even an ideally exhaustive system of general principles. The logical process includes, as an organic part of itself, the selection and reference of that particular one of the system which is relevant to the particular case. This individualized selection and adaptation is an integral portion of the logic of the situation. And such selection and adjustment is clearly in the nature of an act.

Nor must we fail to make clear that we are concerned, not with selecting and adapting a ready-made universal, but with the origin of the universal absolutely for the sake of just such adaptation. If individual cases in experience never gave us any difficulty in identification, if they never set any problem, universals would simply not exist, to say nothing of being used. The universal is precisely such a statement of experience as will facilitate and guarantee the valuation of individualized experiences. It has no existence, as it has no check of validity, outside of such a function. In some case where science has already made considerable headway, we may, without error, speak as if universals were already at hand, and as if the only question were which one of them to pick out and employ. But such a way of speaking must not blind us to the fact that it was only because of the need of some more objective way of determining a given case that a universal ever originated and took on form and character. Did not the universal develop as medium of conciliation in just the same sort of situation of conflict as that in which it finds its use, such use would be absolutely arbitrary, and consequently without logical limit. The activity which selects and employs is logical, not extra-logical, just because the tool selected and employed has been invented and developed precisely for the sake of just such future selection and use.

b) The individualized act (or choice) in judgments of identification shows itself not only in selection from a body of possibilities of the specific predicate required, but in the determination of the “This,” or subject, as well. Students of logic are

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2 The point of view which is here presented is, of course, distinctly pragmatic. I am not quite sure, however, of the implications of certain views of its history. They sometimes seem to imply that a rational or logical statement is all right up to a certain point, but has fixed external limits, so that at critical points recourse must be had to considerations which are distinctly of an irrational or extra-logical order, and this recourse is identified with choice and “activity.” The practical and the logical are thus opposed to each other. It is just the opposite which I am endeavoring to sustain, viz., that the logical is an inherent or organic expression of the practical, and hence is fulfilling its own logical ends and aims when it functions practically. I have no desire to show that what we term “science” is arbitrarily limited by outside ethical considerations; and that consequently science cannot intrude itself into the ethical sphere; but precisely the contrary, viz., that just because science is a mode of controlling our active relations with the world of experienced things, ethical experience is supremely in need of such regulation. And by “practical” I mean only regulated change in experienced values.