Chapter 10
Pragmatism and the Form of Thought

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Abstract In this chapter, Grace Andrus de Laguna and Theodore de Laguna critically examine the pragmatist theory of knowledge and offer their own alternative to it.

We propose to bring together in this chapter certain considerations bearing upon the contempt for formal logic which prevails among pragmatists. It appears to us, and we shall try to establish the contention, that this contempt and the hostility which it has inspired have no reasonable excuse; that they have arisen from an unwarranted exaggeration of the legitimate consequences of the pragmatist theory of truth. The general position which we are to criticise may be briefly indicated as follows.

Consciousness is a function of the animal organism which has developed by reason of its utility in various types of situations. The intelligent study of consciousness will not attempt to separate it from the conditions under which its present characteristics have been acquired and to which its various structural relations owe all their functional importance. To make such a separation is to be committed to a formalism as shallow as that of an engineer who should analyze and describe a complicated machine without reference to the work for which it was designed and by which the proportions and interconnections of all its parts were determined.

If consciousness is not to be studied as a thing-in-itself, still less is logical thought. For the latter is but an episode in the life of feeling. It has its rise in the unpleasant strain occasioned by the failure of an habitual mode of behavior; and it has its

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normal conclusion in the satisfaction attendant upon successful readjustment. All real thought is essentially practical, in the sense that it is devoted to the solving of problems arising out of the exigencies of conduct, and that when a solution is reached behavior is modified accordingly. Thought is therefore not to be studied to greatest advantage in those of its manifestations where it is as nearly as possible idle—where needs are fictitious, interest lax, effort subliminal, and the entire operation is scarcely more than the repetition of a form of words.

When thought is seen at work, the meaning of logical validity is clear. Valid thought is efficient thought, thought that accomplishes its function of controlling conduct in accordance with the needs of the organism. The notion, that apart from its proper function thought may possess a peculiar intrinsic, or formal, validity, is delusive. A form of thought, as distinguished from its content, there is none.

Hence the futility of formal logic. It is the physiology of a corpse—of thought which is without function and without life. Even the Hegelian dialectic is better; for in spite of willful abstraction one cannot think the categories without surreptitiously bringing in something of their concrete significance, and it is to this that whatever insight is therein displayed is due. But formal logic, the science of every thought and none, is at the limit of possible insignificance. Any access of sense is rigorously cut off.

This judgment of the supposed science of thought is strongly confirmed by an examination of the specific content which it has accumulated. We find a body of formulae, which are fitly expressed, not in words with their wide and shifting associations, but in bare and simple algebraic symbols. Do these formulae constitute a description of any actual thought? Who knows? The logician, as logician, does not care—except that he would like to think that his logic itself is logical, i.e., conforms to its own canons; but this he knows he cannot show. But the intention of the formulae is not to describe actual thought (which may be logical or illogical) but a certain type of ideal thought. Whether any such thought has occurred or will ever occur, is a secondary consideration.

The most striking characteristic of the ideal thought is the absolute fixity of its terms. *A is A,* and *A is not not-A,* are classic expressions of this feature. The most striking characteristic of actual human thought, at least to the observation of the trained student of human nature, is the more or less limited fixity and stability of its terms. They are products of an evolution which still proceeds. And though we cannot in many instances distinguish, or even imagine, the particular changes that may have taken place within the period of human history, and must even grant that certain concepts have, in all probability, remained substantially unchanged for ages, we cannot avoid recognizing at least the possibility of their future modification. In no case have we sufficient warrant to guarantee the permanent fixity of the existing forms; and, in fact, it is only within the domain of the mathematical sciences that such fixity could be claimed with any show of reasonableness. Of the great mass of our concepts we can scarcely doubt that they are changing now more rapidly than ever before.

But where concepts are undergoing an evolution, a precise clearness cannot be expected. Where distinctions are hardening and melting away again and shifting

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generally, it is impossible that dividing lines should be shadowless and unbroken. Bacon's aphorism, that ultimately satisfactory definitions belong, not to the initial stages, but to the consummation of the sciences, is significant to us as the description of a never to be attained ideal. The conviction of clearness is common enough. But we have well learned that there is no more suspicious indication of shallowness of mind. The nearer any concrete reasoning approaches the mathematical type, the readier we are to condemn it as doctrinaire.

The weakness of the syllogism, that supposed universal form of thought, is now evident. The possibility of drawing a conclusion depends upon the exact identity of the middle term in the two premises. But who shall vouch for this? Not to the satisfaction of common sense alone, but in accordance with the canons of the syllogism itself? For by these canons the least variation constitutes a *quaternio,* and no valid inference is then possible. In fact, so far from being an absolutely certain mode of inference, the syllogism is dangerously deceptive, just because it effectually conceals the evidences of its weakness. The syllogistic axiom, the *dictum de omni et nullo,* pretending to represent the essential form of thought in abstraction from all particularity of content, is, in reality, without application to any content whatsoever; for its terms require just that fixity and clearness which the thoughts of men can never claim.

The pragmatist theory, that all meanings refer ultimately to correlations of stimulus and response, can be accepted only with certain reservations, which may be summed up in the statement, that such reference is never direct and never univocal. Let us consider the latter qualification first.

A concept is never univocal in its reference to a mode of conduct; that is to say, its meaning is never limited to the correlation of a certain type of stimulus with a certain response. On the contrary, its import invariably embraces a variety of actions under different circumstances. To take a simple example, the concept of the straight line means that when we wish to look at one object we must take care that a second does not stand in the way; a circumstance which, when it occurs, may be obviated by moving either of the objects, by standing aside, or by changing the attitude of the body. It also means that in order to hit an object with a missile we must throw it in its direction; that in order to reach a destination with the greatest promptitude, we must travel directly toward it; that in order that a rope may not sag it must be stretched taut; and so on, practically ad infinitum. So also an apple means to us the eating of it, if it be sound and sweet and our appetite be so inclined; the paring and coring of it, if need be; the removal of a worm or bruised spot perhaps. And the case is not different with such concepts as joy and sorrow, pity and scorn. We may add that even when the particular situation is given, the concept never determines a specific appropriate adjustment. The immediate one-to-one correlation does not fall within the function of thought. That remains the function of older and simpler agencies. Our thoughts direct our conduct, and it is in this service that their meaning ultimately consists; but every concept means both more and less than any particular application of it contains.

To this we have added that the reference of a concept to a mode of conduct is never direct. The concept never directly bridges the gap between stimulus and response. On the contrary, thought is a long-circuiting of the connection, and its

whole character depends upon its indirectness, its involution, if we may use the term. Though concepts, apart from the conduct which they prompt, mean nothing, yet their meaning is never analyzable except into other concepts, indirect like the first in their reference to conduct.

But does not this really do away with the reference altogether? It certainly would, if concepts were ever (in the rationalist's sense) perfectly clear, if their implications ever became perfectly explicit. But as thought always arises as a problem, so it always remains more or less problematic, for that is what lack of clearness amounts to. Every concept involves an indefinite number of problems; and these cannot be stated except in terms which themselves in turn involve indefinite series of problems. Nowhere is there an absolute given, a self-sufficient first premise. From this, as well as from the indirect and equivocal nature of the reference of thought to conduct, it follows that the confirmation or invalidation of a concept by the result of the conduct which it serves to guide can itself be no more than tentative. But this does not mean that it is unreal or unessential to the nature or development of thought.

These considerations, however, have a decided bearing upon the pragmatist contention, that apart from its reference to conduct thought has no form. This is naturally understood to imply that the nature of thought may be exhaustively described in the statement of its relation to conduct. Now it is very probable that the statement of the relation between two terms may be indefinitely developed, so as to include any assignable attribute of the terms in question. But at any stage of scientific progress all this remains an abstract possibility; and the degree in which the statement of a relation is actually comprehensive of the otherwise known content of its terms is capable of indefinite variation. And with respect to thought and conduct it must be said that the very indirectness and equivocality of the reference of the former to the latter gives thought a character of its own, which is as independent of aught beyond as can well be imagined. The more meaning is read into this particular doctrine, the less truth there is in it. Apart from the reference of thought to conduct, that is to say, in the limitless interrelations of concepts with each other, thought has as distinctive a form as any abstractly considered entity whatsoever.

What, then, shall be said of logical validity? Is it true that this does not attach to thought considered in abstraction from the control of conduct—that its only test is the practical one, the cessation of thought itself when its task of readjustment is done? For the reasons just given we cannot assent to this. The very indirectness of the reference of concepts to modes of reaction implies that the interrelations of concepts which mediate the ultimate practical reference must have a character of rightness or wrongness in themselves. To say that without the ulterior test of workability all other rightness or wrongness would be fictitious is to interpose an idle objection. For the point precisely is that without a characteristic organization of the content of thought the practical significance of thought would itself disappear.

The fact is that according to the common pragmatist view a chain of reasoning would be altogether impossible. For in such a chain each link must be valid if the whole is to have any strength. But the test of practice obviously cannot apply to the separate links; it can only indicate in a general way the profitableness of the whole procedure. If the test fails, that alone does not determine where the difficulty lies. It

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is, indeed, implied, that each valid link, if separately tested—or if tested in a variety of connections, such as would throw its own strength or weakness into relief—would lead to satisfactory results. But in the chain of argument no such procedure is ordinarily contemplated. On the contrary, each conclusion reached in the course of the argument is regarded as proceeding immediately from its premises; and it is upon that supposition that the reasoner advances to the later conclusions.

But it is not only the chain of reasoning that cannot be accounted for on the pragmatist basis. The simplest conceivable argument, in which premise and conclusion are distinguished, becomes equally inexplicable; and this can be shown from an example which is in constant reference by the pragmatists themselves. Let us suppose that the truth of a general hypothesis has been tested in the case of a particular instance, and has been found in want of correction. Here, on the basis of the hypothesis under consideration, something is inferred as to the results of acting in a certain way under certain circumstances; and this conclusion, as compared with the observed results, is found to be false. What now constitutes the validity of the inference which led to the admittedly false conclusion? The whole procedure depends upon this point, and yet just this point is submitted to no practical test. To be sure it may be said that similar inferences have in the past been found to be correct. But, in the first place, it is probably not on the basis of such a comparison that the untrue conclusion is accepted as correctly derived. That is seldom a matter for reflection. And, in the second place, we must observe that the pragmatist theory fails equally to explain the correctness of an inference from true premises. In a word, the theory does not distinguish between the *correctness of an inference* and the *truth of its premises,* and hence virtually eliminates the former altogether.

So far as we are aware, this result can only be avoided by an interpretation of pragmatism in which its opposition to formal logic is given up. It is pointed out that the acceptance of a conclusion as satisfactorily derived, with consequent passing on the drawing of further inferences is itself a piece of conduct in which earlier thought finds its extinction; and that the meaning which we ascribe to the term ‘validity’ is exhausted in its reference to such conduct. To this we have no objection; but we think it necessary to call attention to several important features of the argument.

In the first place, the conduct just mentioned is not to be confused with the conduct to which implied reference is made in the conclusion. Suppose, for example, that it has been demonstrated by the methods of elementary geometry, that a triangle is determined by the length of its three sides. This is a most useful principle in many lines of activity, very conspicuously in building. It means, for one thing, that a triangular structure made of stiff material is non-collapsible, even though its corners be hinged, and, consequently, that such a structure has no need of further bracing. The rectangle is known not to have this property; and accordingly a frame of that shape is frequently given greater rigidity by constructing a triangle in one of its corners. Now it is in its reference to such practical applications as this that the meaning of the proposition consists; and its truth is confirmed by the satisfactory issue of the conduct thus prompted. The point to which special attention must be called, is that, according to the interpretation of the pragmatist doctrine which we are now considering, this is not the conduct in reference to which the validity of the demonstration itself has its

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meaning. The meaning of 'validity' is found in *the characteristic mental procedure involved in accepting the conclusion as warranted by the premises,* and which would be generically the same, whether the premises (and accordingly the conclusion) were regarded as true, as probable, as possible, or even as contrary to fact. Here, as elsewhere, of course, no single definite act can be pointed out as unequivocally referred to by the concept; but that fact offers no greater difficulty here than in the case of physical behavior.

In the second place, it is implied that apart from the interest attaching to the environmental situation which indirectly prompted the whole argument, there is likewise a specific interest attaching to the logical situation as such. This situation is formulated in a problem, the solution of which is contained in the acceptance of the conclusion as correctly derived. That such a specific interest exists is very commonly believed, and is by no means an untenable hypothesis. Logical validity is thus recognized as a kind of value depending upon a specific sentiment and as in so far comparable to esthetic and moral values.

In the third place, the special point which we have had in view throughout this digression is now readily established,—namely that the opposition of pragmatism to merely formal logic has no solid basis. The familiar pragmatist doctrine, that thought has no validity apart from its function in controlling conduct, seems like a subterfuge when we reflect that the conduct to which logical validity refers is logical procedure itself. It is no subterfuge, however, but only the result of an afterthought which reestablishes what at first sight seemed done away with. And after all, though the negative result proved deceptive, the positive results which may be safely enumerated are not small. It is no small gain to have learned, that in so far as thought has a distinctive form, it must be viewed as purposive behavior animated by a distinctive human interest. It surely is not a less welcome, because a somewhat unexpected, outcome of the pragmatist philosophy, that theoretical values as such are restored to their ancient position of dignified independence of more narrowly 'practical' needs.

Let it be noted that in asserting against the pragmatist the indispensability of the conception of a form of thought as such, we do not commit ourselves to any dogma as to the universality or permanence of this form. We need assert no greater claims for the form of thought (however it be expressed) than we are ready to assert for the fundamental laws of mechanics. In either case, if an absolute exist we can never know it; and any ascription of qualities to the unknowable is sheer play of fancy. The form of thought as we know it, though fairly clear in certain respects, is sadly obscure in some others. Our conceptions of it have undergone some very decided modifications in the past, and no doubt will be profoundly modified in the future. The assertion, then, that thought has a universal form, could we but know it, is without scientific significance. And to assert absolute universality for any statement of its form which we can make, is to lapse into indefensible rationalism.

Nor, for similar reasons, are we committed to any dogma with regard to the relation of the form of thought to its content. We must, however, frankly admit one necessary assumption,—namely, that hypothetically to recognize any definite form of thought at all is hypothetically to recognize it as a universal under which various contents are subsumed without change in itself. But the self-contradiction—if such there be—is

no greater than is involved in any general proposition whatsoever. For no proposition can contain the confession of its own impermanence. And it is of no avail to object that 'form,' as distinguished from 'content,' is a category of ignorance or of imperfect knowledge; for so are all our other categories.

Herein, though we have departed from the letter of the pragmatist doctrine, we believe we have remained true to its deeper spirit. Our criticism is, indeed, that it has contained a vital inconsistency. In the theory of inference that inconsistency appears as a denial of the reciprocality of determination, as exemplified in the relation of premise and conclusion. Whereas rationalism had made the former prior in authority, pragmatism has simply reversed the order of dependence and made the conclusion prior to the premise. Thus, for pragmatism as for rationalism, the inference has ultimately vanished altogether.

It is not necessary for us to examine at length the specific criticisms which the pragmatist urges against the traditional schema of the form of thought, namely, the syllogism. It is true that the formula of the syllogism does imply that the terms are distinct and fixed in meaning, at least so far as to ensure the universality of the major premise and to exclude a *quaternio terminorum*; and it is possible that this condition is not satisfied in any real deduction. But the answer is, that deduction is a thought-process in which ideas are regarded *as if they were fixed and distinct*; and an ample justification of the process is the fact that ideas *must* be so regarded if their specific obscurities and self-contradictions are ever to be exhibited and removed. It is by working our ideas for all that they are worth, that their limitations are brought to light. Is the syllogism a true account of the deductive process as it goes on in our minds? We cannot say that; for, in the first place, it would claim for the doctrine of the syllogism an absolute certitude which we are not disposed to claim for any knowledge whatsoever; and, in the second place, we know in a general way that obscurity and vacillation everywhere pervade our thought. But in a specific instance, the syllogism may well enough describe our thought, so far as our perception of its significance yet extends; and when that perception becomes deeper, we no longer call the total process, as thus distinguished, deduction. And furthermore, at any stage of progress, the syllogism is the form which the clearest of our thought appears to take. In so far, the rationalist was undoubtedly right in his conception of deductive certainty as the ideal of science. He did not see, however, that it is an ideal which can only be progressively realized,—that its absolute realization would, indeed, be the extinction of thought altogether. If there were any such assured knowledge as the rationalist dreamed of—final, irreducible, modifiable only by accretion—his logic would have been unanswerable. It is our sense of the universal process that for us limits the truth of his account to a temporal cross-section of knowledge, regarded as if it were eternal.

Very similar must be our comment upon the pragmatist's treatment of the conception of fundamental categories of thought. Despite its lack of finality the conception has a very considerable degree of usefulness. Kant is popularly believed to have been one of the most wanton of theorists, exceeded in this respect only by his romantic successors,—a self-centered recluse who unrestrainedly piled speculation upon speculation, with the slenderest basis of observed fact. The student of Kant knows that

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this is not true,—that among all philosophers ancient and modern he is unsurpassed both for the breadth of scientific observation which went to the forming of his views, and for the rigid faithfulness with which he persisted in his observations and refused to indulge in gratuitous hypothesis. To adopt a phrase of the nature-poets, never was there a man who more invariably wrote "with his eye on the object." It is, indeed, in consequence of impartial fidelity to matter-of-fact, that the volumes of his critical philosophy are unusually full of naked paradox—short of formal contradiction, no consideration could lead him utterly to exclude a well attested datum of experience. To this general character of his thought, the doctrine of the categories assuredly presents no exception. If we can no longer accept that doctrine in its historical form, our dissent is due neither to faulty observation in the premises nor to fallacy in the reasoning, but to a radical transformation in the whole body of logical theory in which the conception of categories has its place. To the array of tolerably evident facts which the Kantian doctrine represents a respectful interpretation must still be given.

These facts may be briefly enumerated as follows. We are in possession of a number of very general principles, to which we attribute a truth that is not conceived as open to correction by any experience; inasmuch as all the particulars of experience are interpreted in accordance with these principles, and any observation which apparently contradicted them would rather itself be denied than cause a modification in these principles. These principles are obviously synthetic, and thus open to formal questioning, and no demonstration of their truth can be given; but they constitute the most comprehensive organization of our experience, and it is in this function that their validity consists. The reality of phenomena in our experience has no further assignable meaning than their conformity to these most general conditions of experience.

How these facts were interpreted by Kant need not now concern us, except to note that in that interpretation the possibility of an evolutionary explanation of them was definitely excluded. Herein Kant remained a rationalist. Thought, for him, must operate with concepts, to which the laws of contradiction and of the excluded middle applied absolutely and without reservation. That, measured by such a standard, the fundamental categories of the understanding should be false—that the unity of experience which 'they mediated should be imperfect—was not for him a real possibility. His problem did not include it. Thus the scepticism which he refuted was one which left the analytical judgment unquestioned. It was only the fact of synthesis that suggested doubt, and this only in so far as universality was claimed for it. The very enterprise with which the *Transcendental Analytic* sets out—the formation of a definitive and complete list of categories, as if that were a thinkable performance—is sufficient to indicate his attitude in the matter. And the completeness of the list in which the metaphysical deduction issues is an important premise in the later argument. It is upon this that the indispensability, and hence the unquestionable validity, of the categories depends. These and no others must perform the function which they perform—because there are no others.

In place of this persistent dogmatism, we would rather observe that when a succession of concepts appears, each of which has arisen as a modification of the preceding

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complex, a certain relative stability belongs to the earlier members. Not as if temporal priority gave a logical priority in the ordinary sense of the term; for the later does not come as a mere accretion to the earlier, but as a modification of it which goes to the formation of a more complex unity. But the earlier has nevertheless this preference: that, as the further revision of the complex becomes necessary, this takes place, as far as possible, in the later elements; and only such portion of the correction as cannot be made here is passed back farther and farther, until the disturbing conditions are satisfied. This, indeed, appears to be a general characteristic of all evolution, and forms a part, at least, of what is commonly alluded to as the 'continuity' of the process. It may, therefore, naturally be expected, that among our concepts there are certain ones which are not observably affected in the course of ordinary experience, and thus stand to the whole of our thought as nearly as possible in the relation of an a priori ground. Such we may well enough designate the 'categories' of our thought; but they will obviously lack certain of the important characteristics that have traditionally been associated with this term. They are not forms of thought as distinguished from its content; they are not final or unmodifiable; we cannot affirm that they are true of all possible experience. In short, they are to be distinguished by no hard and fast line from the other concepts of the understanding.

What, then, is the practical use of the distinction? Simply this: that, when we try to give an account of the concepts which appear to be fundamental in all our thinking, we find that they form a quite closely articulated system—not so perfect, doubtless, as the absolute idealist would have had us believe, but still a system, and the most permanent factor in our thought. If we, then, regard our present knowledge as a cross-section of an evolutionary process—a loose procedure, if judged by too scrupulous a standard, for our present knowledge continues its development while we inspect it; but none the less a necessary procedure—the system of categories stands out as an a priori element in our thinking, a pure form of thought, logically prior to all the particularity of experience. That is to say, we find ourselves virtually at the standpoint of the critical philosophy—with this exception, indeed, that we do not regard it as an ultimate standpoint, and hence no longer expect a self-sufficient completeness in the view of reality which it affords. In the sense of this exception, the critical standpoint has, we believe, been transcended; but we must still return to it for observations of the utmost scientific importance.

It is in this light that we must regard the logical researches of Kant's successors, and in particular those of Hegel. We have already expressed our reasons for the opinion, that, in spite of important divergences, Hegel's epistemology is still fairly to be classed as a form of rationalism. Although more to him than to any other man is due the elaboration of the logical conceptions which appertain to general evolutionary theory; and though he applied these conceptions with wonderful insight to the study of the development of thought; yet that development, as he conceived it, was a movement within a system, not of a system, for the system as such was completely determined by its absolute end. For this reason he could not dispense with the essentially rationalistic conception of pure—that is to say, a priori—thought, and whatever may be conceived to have been the psychological history of his logic, it stands in its full rounded completeness as a schema to which nature and spirit

universally conform. But, when the extravagances to which his absolutism led him are, as well as may be set aside, and the *Science of Logic* is viewed as a provisional solution of a problem, which, from the terms in which it is stated, can never be adequately solved, it becomes a treasurehouse of inestimable wisdom, which the pragmatist, of all men, cannot afford to despise.

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