Dialectic

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PREFACE

I NEED only appeal to the pleasures and discomforts which most human beings have experienced in conversation and argument to justify the intention of this book. It is an attempt to examine the circumstances and conditions of controversy in order to understand what are its inescapable limitations, its intellectual traits and values. If the importance of conversation seems to be exaggerated by making it the theme of so elaborate an analysis, the implications of that analysis may bring the doubtful reader to share in my estimate of controversial discourse as one of the actual occasions of the life of reason, however and wherever else it may occur.

Dialectic is a convenient technical name for the kind of thinking which takes place when human beings enter into dispute, or when they carry on in reflection the polemical consideration of some theory or idea. It is presented here as a methodology significantly different from the procedure of the empirical scientist or the method of the mathematician. It is an intellectual process in which all men engage in so far as they undertake to be critical of their own opinions, or the opinions of others, and are willing to face the difficulties that arise in communication because of the opposition and conflict of diverse insights. Dialectic is relevant to human affairs whenever men find themselves in agreement or disagreement over matters of theory. It is not only a method of dealing with disagreements, but an attitude to be taken toward agreement which interprets it as merely relative to the situation in which it is achieved.

I am in the unusual position of being genuinely indifferent as to whether the readers of this book accept

or quarrel with its doctrine. Whatever be their manner of dealing with the theory of dialectic, it seems to me that they must acknowledge it as a method in order to dispute or confirm it. If I have described what are the essential processes by which theoretical differences are met and settled, the way in which ideas are translated into one another for purposes of clarification and understanding, then I have nothing to fear from whatever opposition the fundamental theses of this book provoke. My opponent must be a dialectician in order to argue with me, and I shall not be disturbed if in that argument we succeed in understanding one another better, though that imply some correction or alternation of the theory herein advanced. Any change, if it be wrought dialectically, will not harm the theory which suffers it.

It has been my purpose to exhibit dialectic at once as being the technique of ordinary conversation when it is confronted by the conflict of opinions, and as being the essential form of philosophical thought. A familiar fact about the discussions in which men indulge is that they become philosophical. Philosophy is not an esoteric profession. It is immanent in any conversation which resorts to definition and analysis instead of to experience ; it is incumbent upon any mind which enters into discourse to understand rather than to believe. Philosophy, it seems to me, is nothing more or less than dialectic. It is a method and an intellectual attitude, not a special subject-matter or a system.

Here again I am compelled by the nature of my theory to face disagreement with indifference. I do not fail to perceive that the doctrine I have developed can be translated into the terms of other theories, therein subordinated and given a different signification. But such treatment would itself be an instance of dialectic, another repetition of the traditional manner in which philosophers, as all other men, have confronted divergences in opinion. The only other alternative would be dogmatic denial. That, I should say, is the only way in which a theory

of dialectic could be effectively nullified. In order not to be a dialectician one must be a dogmatist—however that fundamental opposition be interpreted.

I should like to refer readers to Mr. Scott Buchanan's essay on *Possibility*, published in this Library, as the dialectical correlative, and perhaps, corrective, of many of the theories herein set forth. I am grateful to Mr. Mark Van Doren, and to Mr. Malcolm McComb for reading the manuscript.

M. J. A.

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DIALECTIC

I

THE DISCOVERY OF DIALECTIC

Introductory

The characteristic activity of God, according to Aristotle, is a thinking on thinking. Since God, in this view, is the perfect philosopher, it is not wholly inappropriate that among men the philosophers should most frequently have become engaged in this activity. But being men as well as somewhat divine, they have not ever been wholly successful. This may be seen in that fact that preoccupation with the considerations of methodology has occurred at every stage in the history of western European thought. The specific problems, and the terms in which they may have been temporarily solved, have changed, of course, from time to time. But in each epoch there has been some attempt to state the ideal of human thinking, and to describe the process best adapted to achieve that end.

By and large, the methodology of a period, either explicitly stated as a logic or a psychology, or perhaps merely exemplified in its intellectual products, is a sensitive index of the typical intellectuality of the period. This if said very generally of the classic, mediaeval, and modern periods, would hardly be questionable. It is relevant to our purpose to make this statement only in so far as this book claims to be a departure from the traditional conceptions of thinking prevalent in this, and perhaps, other epochs. And to make this claim significant it is necessary to define the novelty of the present attempt, as well as to indicate its sources in the tradition. It may be demonstrable that we are

here engaged in focalizing and crystallizing a number of tendencies that have always existed, have at times been prominent, and have recently come into new emphasis.

The traditional literature of methodology—and no distinction is here made between normative logic and the various psychological accounts of thinking—may be summarized in the statement of the few fundamental theses which have recurred repeatedly and have, therefore, acquired a certain obviousness and conventionality. (1) Thinking is a matter of having and dealing with ideas. (2) Thinking is a process which an individual mind carries on by itself when it has ideas and deals with them. (3) Thinking is an activity of reason, and is essentially independent of irrational purpose and desire. (4) Thinking seeks to end in knowing; that is, thinking rests in the truth.

These theses form a highly conventional doctrine, but a doctrine which has nevertheless been denied unanimity of assent by the assertion at one time or another of contrary opinions regarding them. In examining each of these statements more carefully this will be kept in mind, and the divergent opinions will be stated in each case. These divergent tendencies have suggested, and perhaps even partially formulated, the doctrine of this book.

(1) Thinking is a matter of having and dealing with ideas. Ideas may be defined either as images in the mind, or as propositions, or as judgments, or even as imageless thoughts. There is a sense, perhaps, in which an idea either is, or has something to do with, one or another of these entities. And thinking certainly does not go on independently of ideas in one or another of these senses. Common logic and the traditional psychology have not committed an egregious error in making this assertion. The difficulty rests with what has been omitted, and in some cases, excluded from the description of thinking. It is only recently that the insufficiency

of this description has been suggested by two unrelated tendencies in contemporary thought, behaviorism, on the one hand, and a renewed interest in linguistics, on the other.

No espousal of behaviorism is herein intended. That is not necessarily implied in the reference to the behavioristic psychologist's insistence upon the relation of thinking and talking. Even the dilemma, whether thinking can go on apart from language, or whether thinking is to be identified with language activity, need not concern us at present. Our interest is chiefly in the assertion of the importance of language as an agency in thinking. This assertion does not deny the thesis being considered. It merely suggests another aspect of the process of having and dealing with ideas, which earlier definitions of the idea as an image or a judgment or a notion, omitted. It would make the thesis read as follows: thinking is a matter of having and dealing with ideas, (largely or entirely) through the medium of language.

Behaviorism arose at a time when psychologists and logicians interested in the problem of thinking were concerned with the theory of meaning. But behaviorism, although it had special theory of thought, contributed little to the more abstruse, and perhaps too philosophical, consideration of the nature of meaning. Curiously enough, however, what seems to be the upshot of a prolonged discussion of meaning, is quite congenial to behaviorism. The pure and mathematical logicians were interested in meaning only in the sense of implication; the introspective and, perhaps, pure psychologists were interested in meaning only as the attribute of an image or as a conscious entity or *gegenstand* itself. It remained for those who approached the problem as the central theme of linguistics to give the most adequate and detailed statement of all the issues involved.[1] Again

[1] See C. K. Ogden and I. A. Richards, *The Meaning of Meaning* in the International Library of Psychology, chap. ix, *passim*.

it must be clearly understood that no one definition or theory of meaning is herein accepted. The important point is rather that by investigating meaning in terms of language, in terms of the functioning of symbols in whatever notation, a thorough phenomenology of the processes by which words, or other symbols, come to have the various meanings that they do have, was obtained. This phenomenology may have solved no problems, but it at least clarified them by enumerating the many meanings of the word " meaning " itself.

Thinking as a matter of ideas thus becomes not only generally an affair of language, in terms of behaviorism, but more specifically, an affair of meanings which can be expressed clearly, if not ultimately, in terms of verbal relationships and the characteristics of the symbolic process. That thinking is such and such is not to be asserted ; it is our purpose merely to observe the modifications of the original thesis introduced by behavioristic psychology and the linguistic theory of meaning, two tendencies divergent from the main tradition.

It is interesting and important to remember that the theory of language is a radical and perhaps subversive element only in the specifically modern tradition from Descartes and Locke to the present. It was otherwise in both classical and mediaeval times. Without scholarly documentation this statement can be supported by calling attention to the intimate relation between grammar and logic in Aristotle's *Organon*, and to the order of studies in the mediaeval *trivium*, grammar, rhetoric, dialectic. It is hardly implied that there is a concord between these two instances of a relation observed between the structure of language and the procedure of thought, and the contemporary observation of a similar relationship. As a matter of fact, mediaeval literature furnishes us with several disagreeing doctrines of language, and in Aristotle the relations between grammar and logic are to be found by the inquirer who has an eye for such matters. They are not explicitly

expounded by Aristotle himself. But, at least, these references lead us to the conclusion that it has only been since the seventeenth century that the description and theory of thinking have ignored or under-estimated the relevancy and significance of language, of grammar, and of rhetoric. It is, therefore, against the background of the last three centuries that the revived interest in and emphasis of language is important.

(2) Thinking is a process which an individual mind carries on by itself when it has ideas and deals with them. The emphasis in this statement is upon the fact of individuality. According to the conventional opinion here being expounded, thinking may take any form whatsoever; i.e. reverie, ratiocination, pragmatic reflection, experimental procedure, or thinking may be either by analogy, induction or deduction,—but it will always be described as a process in which a single mind engages. It is difficult to unravel the historical grounds for the commonplaceness which this thesis has attained, but it is not unlikely that this emphasis upon the individual in thinking has been connected historically with the equally conventional opinion that all thinking can be exhaustively described in terms of deduction and induction or some form thereof.

The objection which might be raised to this thesis, and the historical divergences from it which lead to this objection, assails both of its two clauses at the same time. Thinking may be a process carried on by two minds and depending for its life upon the interplay of these two minds; and if thinking is ever so conditioned, it may have a formal structure which is not really reducible to the canonical forms of induction or deduction.

Anyone who meditates for a moment upon the experience of human conversation,—conversation intended to establish or dispose of opinions and perhaps, therefore, called argumentative or polemical,—will agree that such conversation is a kind of thinking in which an individual mind can indulge only through the mutual participation

of one or more other minds. And if it is not denied that conversation or argument is a kind of thinking, it will be admitted that here is a kind of thinking which differs from the patterns of the laboratory and the library, and which could not be properly analysed or described by reference to ordinary logical terms.

The fact of human conversation and argument is so omnipresent among persons who might be concerned in the least about the nature of thought, that it seems odd the tradition should have ignored this very relevant phenomenon. As a matter of fact, it is again the specifically modern tradition since the Renaissance which has been content with its common formulæ of induction and deduction. There are major exceptions in both classical and mediaeval thought.

The dialogues of Plato, whatever be the final satisfactory interpretation of them, exemplify perfectly the cogitative qualities of human discourse. That Plato employed the dialogue as a literary form may be due to the influence upon the poetic tendencies in his nature of the *mimes* of Sophron; but there is also considerable ground for feeling that Plato wrote dialogues because he appreciated the origins of thought in conversation. That Plato should have had this insight is not startling when one remembers that his intellectual career was begun and nourished among the sophists. And, furthermore, Plato is responsible for the term " dialectic ", a term which most generally designates the processes of discursive (or conversational) thinking.

The contrast and opposition of the classical and modern traditions with regard to this point is made sharply clear by an inuendo of verbal usage. Plato would not have resented the identification of sophistry and dialectic, if we were allowed to distinguish between good and bad sophistry, between the sophistry of Socrates and Thrasymachus—although we might smile at the distinction. At least, he would have perceived their formal similarity. But in the last three centuries

sophistry has become a word of opprobrium and derogation *par excellence*, and without any recognition of formal structure, it has been employed as a synonym for dialectic and for "scholasticism"—another item which the modern tradition has thrown into the discard or held up to ridicule and abuse.

That scholasticism be so designated and so classified is not at all inappropriate, for the schoolmen were masters of the art which the dialogues of Plato both exemplified and praised, and which they conventionally called dialectic. We cannot here enter upon an adequate report of the nature of dialectic and the rôle it played in mediaeval thought; but we can observe certain of its intellectual affiliations that will define it against the background of the tradition.

Dialectic was understood to be neither a method of investigation nor one of demonstration. It was a method of argument, of controversy, and disputation. Probably in so far as argument occupied so large a part of the intellectual life of the Middle Ages, dialectic was valued; and probably in so far as investigation, experiment, and demonstration have been the dominant intellectual concerns of the era introduced by Galileo and Newton, dialectic has been ignored, its value under-estimated or condemned, its form misunderstood. This fact of change of interest and occupation, along with a certain interpretation of the *Organon* of Aristotle made popular by the *Novum Organum* of Bacon, probably accounts for the conception that thinking is a matter of induction and deduction, a business of inference generally, if not exclusively, carried on by the single mind.

The importance of dialectic as an educational device is also significant. One remembers that in *The Republic* the training of the philosopher-king was to be concluded with dialectic, "the coping-stone that lies on top of all the sciences"; that in the education of the Roman gentleman, as reflected and outlined in the writings of Cicero, rhetoric was one of the foundations; and that

in the organization of the mediaeval school, the *trivium* comprised grammar, rhetoric, and dialectic. What was at one time considered indispensable in the training of either a gentleman or a philosopher has now become an element quite carefully to be excluded from the curriculum, as subversive of the scientific discipline. Instead logic, inductive and deductive, became the required course of study, and it is worth noting that it has completely failed to achieve the importance in the modern scheme that dialectic occupied in the ancient and mediaeval. It has passed from being a discipline thought necessary in the training of the scientific mind to being either an accessory to such training, or merely a consideration of the discipline itself in the abstract, a set of formal rules and practices On the contrary, dialectic retained its vitality, and flourished in the soil in which it was indigenous. Certainly in Montaigne, and even so late as Dr. Johnson, rhetoric and the ability to converse well were recognized as the distinguishing adjuncts of the educated man.

The reiterated relation of dialectic to rhetoric and to grammar suggests that our earlier discussion of the part that language plays in thinking again becomes relevant On the one hand, the importance of language is conceded both in the classical and mediaeval interest in dialectic. The dialogues of Plato seem to be in part concerned with the definition of terms, and with making distinctions clear in words. The schoolman was made fit to study and practise dialectic by the preliminary discipline of grammar and rhetoric. On the other hand, the very recent study of language contributes from a totally different angle another confirmation of the significant and intimate interdependence, not only of language and thought in general, but specifically, of language and the kind of thinking which we have called conversational or dialectical.

This contribution is made jointly by anthropology and psychology. The latter's study of the origin of

language habits in the child[1] leads to the theory that after the period of verbal egocentrism, the basic value in word-acquisition is the use of language to communicate. It is only after the child has acquired a vocabulary in order to communicate its wishes or its feelings to its social environment that it is able to, or tends to, use this vocabulary for the purposes of a-social, or intelligent but non-communicative, expression. In other words, talking to oneself is a much later, and perhaps higher, development than talking to others. The kind of thinking which goes on in what is technically called sub-vocal talking is derivative from the earlier vocalized speech of direct communication.

The anthropologist reports a similar finding in the linguistic habits of primitive peoples. Their language forms are primarily adapted to the needs of communication, of asking and answering questions, of giving orders or making statements having social import, rather than to the purposes of recording observations or distinctions in discourse. We have become so accustomed to regarding language as a device extraordinarily well adapted for registering the observations and distinctions we are capable of making, we do not realize that among less developed peoples, less "sophisticated" perhaps, language serves the much simpler function of direct communication.

Socialized thinking may be, if these evidences are worthy, more primitive than thinking which is done apart from the social environment and is at the same time intelligent rather than autistic. Thinking, if it is related to language at all, may be primitively a matter of talking in the sense of social speech, a matter of conversing. Dialectic, or the refinement of conversation, is certainly a later development, a sophistication of speech as it were; and similarly, the use of language in intellectual processes which are not social or conversa-

[1] See Jean Piaget, *The Language and Thought of the Child*, in the International Library of Psychology, etc.

tional, is a derivative practice. In the light of these distinctions, it is odd that the thesis we are considering, i.e. thinking is a process which the individual mind carries on by itself, should have ever gained such conventional weight, and that methodology of the modern tradition should have been so exclusively concerned with induction and deduction and similar ways of inference, to the complete ignorance of dialectical thinking.

One prominent exception to the modern tradition must be acknowledged. Hegel, among the philosophers, not only recognized but emphasized the distinction between the ordinary normative logic and the method of dialectic, so much so, in fact, that the phrase " Hegelian dialectic " has become a catch-word of disapproval or praise. Hegel generalized the method beyond the confines of human discourse and beyond its employment in controversy and dispute, thus going beyond Plato or Abelard. It becomes with Hegel the underlying pattern of all intellectual activity, and, of course, of all change in the universe, since whatever is real is rational. At this point we cannot pause to evaluate the Hegelian position, or even to contrast it thoroughly with the historically earlier uses of dialectic. It contributes to our present discussion in one respect: it suggests that dialectic is a form which can be analysed and contemplated apart from its occurence in actual discourse or dispute. To put this in other words, dialectic is a kind of thinking to be distinguished from the inductive or deductive thinking engaged in by the " single mind ", and what seems to be implied thereby is that dialectic involves a duality of minds. It does actually in ordinary conversation and dispute; but what Hegel leads us to see is that the mind can converse or dispute with itself, and in doing so partakes of dialectical rather than other kinds of thinking. What is required formally for dialectic is not two actually diverse minds, but rather an actual diversity or duality, an opposition or conflict, and this

may occur within the borders of a single mind. When it does, that mind is likely to carry on dialectical thinking, and it is this which has been ignored by the second thesis of the traditional methodology of modern thought.

(3) Thinking is an activity of reason and is essentially independent of irrational purpose or desire. This is an old and in many ways a noble way of regarding thought, but it is not unambiguous. It has been variously interpreted at different times. It has meant that reason is self-sufficient and self-dependent; that reason is uninfluenced by the forces of unreason; that reason is independent of faith; that thinking is uninfluenced by desire or emotion, by wish or purpose; that thinking is a purely intellectual affair, constituted and regulated by reason alone, and unaffected by the limitations of human nature or human materials, specifically, language. The intention is not to submit these statements to evidence or proof, but simply to understand what it is they assert and what it is they deny. And, perhaps, the discussion can be clarified by reducing the variety of special meanings which the thesis may have to their most general form. This is the thesis of intellectualism—what James would have called a "vicious intellectualism"—and may be stated as follows: Thinking is an activity of reason which employs no non-rational elements, or no elements not submitted to reason. To this thesis several objections might be, and have been, raised, and the consideration of them will explain the real force of the thesis itself.

The most obvious antithesis is, of course, presented by recent psychology and psychoanalysis.[1] According to the now familiar psychological analysis, thinking is more frequently rationalization than reasoning. Often

[1] The present discussion is confined to the traits of what psychoanalysis calls intelligent, as contrasted with autistic thinking. For the relation between these two kinds of thinking and language habits, see Piaget, *op. cit.*, pp. 43–9. For my own discussion of the relation between autistic and intelligent thinking, when they conflict, see below.

the statement is made that thinking is always rationalization and never reasoning. The distinction between rationalization and reasoning must definitely not be interpreted in logical terms. It is a distinction in terms of the psychological act. Rationalization is a case of thinking in which reasons are adduced to support a conclusion, or a belief, or an opinion accepted or held on grounds other than the reasons thereto adduced. Such grounds may either be called prejudices, emotional complexes, conscious or unconscious wishes, etc. Reasoning, on the other hand, is a case of thinking in which the conclusion or belief or opinion is reached and held only by way of the reasons which are discovered and considered in the processes of thinking. The point at issue translated into the terms of the thesis we are discussing becomes a question of whether reason is ancillary to pre-rational conviction or prejudice, serving merely the office of rationalization or justification, or whether reason functions independently of such forces, the thinking process actually leading to the conclusions that are then, and only then, accepted as convincing.

Without going into the evidences for the psychological theory of the priority of non-rational elements in thinking, it would be well to state some of the further bearings of the theory upon the matters at issue. Thinking, this theory holds, serves a purpose which is itself not to be submitted to thought, or reasoned about. The term purpose here stands for any one of a number of items, such as prejudices, complexes, or opinions which we already believe or which we will to believe. It does not matter what form thinking takes, it always, according to this theory, is purposeful, and in this sense is not independent of non-rational elements. But it is clear that in the particular kind of thinking which we have already called controversial or conversational, these non-rational elements would seem to have greater force and influence. By the very fact that dialectic is a sort of argument or disputation, the play of emotions and purposes is

given opportunity to become more subtly intertwined with the opposition of reasons, and more difficult to unravel.

There are three sources of non-rationality in dialectical thinking, three foci of intrusion of the irrational. In the first place, an argument usually is motivated by the desire to convince one's opponents, or at least, to annihilate the opposition raised. Polemic thus involves partisanship, and partisanship, to some degree, stems from prejudice. In the second place, certain propositions are sometimes invoked in argument as having a supra-cogitative source, whether this source be specifically designated as authority of one sort or another, faith, intuition, or other form of special insight. Since they derive from supra-rational considerations, such propositions will not be submitted to reason. In the third place, certain propositions are denied because of lack of insight; that is, the intelligibility and therefore the intellectual pertinence, of a proposition is denied. Such denial the psychologist would explain in terms of an emotional block or hindrance. In short, thinking is influenced by special pleading and special insights and misunderstandings, these anomalies in the rational procedure arising from the emotional and wilful attitudes in human nature.

Each of these difficulties that thinking must meet, and others closely affiliated, will receive detailed analysis later. Suffice it for the present if it be suggested that in so far as thinking tends to be demonstrative or argumentative, and to be occupied with propositions to be asserted or denied, it may be susceptible to enumerated non-rational influences both in its origin and in the course of its development toward a conclusion. This, of course, is directly contrary to the conventional thesis of the tradition.

The psychology of recent years is not the only source of objection to the view that thinking is purely rational. Comparatively recent logical theory, especially in the

field of mathematical logic and in the branches of pure mathematics dealing with the theory of postulates and the non-Euclidean geometries, has formulated the demonstrative procedure in a way that makes clear the rôle of non-demonstrable factors. This is the logical parallel of the psychological analysis which reveals the agency of emotion and purpose in thinking.

Plato certainly seems to have been aware at times that the argument was going on within the limitations of certain hypotheses and definitions, which were themselves not submitted to argument. Euclid and Spinoza, it cannot be doubted, must have had insight into their common methodological device of geometrical demonstration, the proving of a certain body of propositions in terms of certain definitions arbitrarily established, certain axioms taken to be self-evident, and certain postulates taken for granted. And in one sense certainly, the method of theology is analogous to that of geometry, the articles of faith, the credal dogmas, functioning as definitions and postulates do in the limitation and demarcation of the field of rational procedure, Scripture and Canon furnishing axiomatic grounds.

But it was not until mathematical thinkers elaborated the theory of postulates and analysed the sources and properties of doctrinal demonstration, that the methodological principles implicit in these earlier instances, acquired their full significance. The chief points of postulate theory are that no demonstration can be made except in terms of some propositions which are not demonstrated, though not necessarily not demonstrable; that such undemonstrated propositions, usually called postulates, are taken as true without proof; that the process of definition requires the acceptation of certain terms as undefinable in any given set of definitions; that such indefinables are taken as having precise meaning though undefined; that, in short, any logical *demonstration, whether called* a doctrine or a system, *depends in logical origin* upon a set of primitives,—

postulates, definitions, and indefinables,—and that within any given system or doctrine, these primitives are themselves not submitted to the processes of demonstration.

These primitives, then, are non-rational elements in the process of thinking, and this is equally so whether that thinking be inductive or deductive, demonstrative or argumentative. They are usually not considered to be absolute; that is, there is no one set of primitives obligatory upon all thinking, and necessary to every system. Postulates and definitions are the logical equivalents of what the psychologist calls prejudices and wilful thinking. They are chosen or selected, rather than intellectually obligatory and rationally unavoidable. The most general name for such elements is "intuitive propositions", when intuition is taken to mean not the manner in which we know a *true proposition* but the manner in which we know a proposition *taken as true.* The former of these two definitions of intuition makes the proposition axiomatic or obligatory; the latter makes it a postulate, which is selected or not selected according to the intellectual purposes governing the specific instance of thinking. In either case, however, intuition represents a supra-cogitative phase of thought, and one indispensable to the processes of demonstration and argument.

The work of Hans Vaihinger, and perhaps the pragmatic movement in philosophy, are also partly responsible for the opposition to a purely intellectualistic methodology. The former's theory of logical fictions, and the latter's emphasis upon the will to believe, contribute from quite different angles to the same general point of view that thinking, on the one hand, is forced to employ elements that are themselves irrational or at least unreasoned, and on the other hand, that thinking is motivated activity, whether the purpose be that of practical adjustment to an environment, or a purely intellectual consideration, such as the development of a doctrine or the demonstration of a creed. Logic, in the light of these

points of view, is seen as an instrument which does not supply its own ends; its functioning is determined for it, not by it. Logic is, as all tools are, valueless unless there is furnished from other sources the materials upon which it can operate. It is an instrument to deal with opinions and obviously cannot be used to create opinions, nor can it be used in their absence. Unless one has something to prove or demonstrate, the methods of proof and demonstration lie idle. The conclusions to be proved must be reached by other faculties, insight or imagination; once given, logic functions dynamically in its proper rôle of establishing means to the determined end.

These matters will be discussed in greater detail later. Our present interest is merely to contrast the thesis that thinking is an activity of reason independent of all non-rational elements, with various forms of the antithesis that thinking is both in origin and in its progressive determination somewhat arbitrary and in certain ways non-rational. The argument may be couched in either logical or psychological terms.

(4) Thinking seeks to end in knowing, that is, thinking rests in truth. This is probably the most fundamental of the four theses being stated. It is given wide assent, despite the variety of meanings assigned in the interpretation of knowledge and of truth. And the issue taken, when objection is raised against the truth ideal, is probably the most crucial to be faced in the development of the argument of this book.

Little explication is needed for the proposition. It implies obviously that thinking is an agency in the accomplishment of knowledge. This might be stated in any one of a number of ways, each, however, giving a slightly different implication. Thinking is dealing with ideas in order to arrive at a set of ideas which can be asserted as true. Thinking is a manner of responding to environmental stimuli in order to obtain a final, consummatory, and satisfactory adjustment. Thinking

is an attempt to construct a system of propositions which shall correspond with the facts, and thus be knowledge of the facts, i.e. true propositions. Thinking concludes with the assertion or denial of certain propositions and it is good thinking in so far as the propositions asserted are true, and the propositions denied are false. In other words, the goodness of thinking is to be judged in terms of its truth value.

Whatever opposition there is to this thesis always takes the form, not of denying absolutely that truth is relevant to thinking, but rather of so defining truth that its relevance to thinking is greatly altered. In the following discussion it is important to bear in mind that no one theory of the nature of truth is being preferred to any other. Contrasting points of view in the interpretation of the thesis under consideration are merely being enumerated and opposed.

At the beginning of this century there was a great furore about the meaning of truth. It has since died away. Pragmatism was responsible for raising the cloud of dust, and never quite properly disposing of all the particles thus disturbed. Logically the primary issue was between the coherence and the correspondence theories of truth, but the storm centre of the controversy more frequently turned upon such distinctions as between the mediacy or immediacy of truth, the relative, approximateness of truth or its final, absoluteness. And the dispute reached its most vulgar stage when the dilemma was stated in terms of whether an idea was true "because it worked", or "worked" because it was true.

All of the above controversial points, however important they may be, alter very slightly the thesis that truth is the criterion applied in the evaluation of thinking. Whether in the coherence theory a judgment is true because of its position in the logical nexus of the Absolute or in the correspondence theory an idea is true because it "fits the facts" somewhat and somehow; whether thinking succeeds in knowing absolutely if it can know

at all or whether its knowledge is highly relative to its circumstances, nevertheless, thinking in any case is good in so far as it is true. There is one meaning common to all these uses of the truth ideal, and that is that thinking is to be judged in terms of something extrinsic to itself—an absolute of some kind, it makes no difference whether it be the familiar Absolute of objective idealism or the disguised absolutes which are called facts by empiricism and pragmatism. It makes no difference whether conformity to the absolute is a temporary or a final relationship, the absolute itself does not change, and the truth is either good once for all, or becomes better and better as it becomes more and more approximate. The central point to be stressed is that the truth quality in all of these cases, despite the differences stated, is essentially the same in one respect, that it is an extrinsic relationship obtaining between thinking and something which is itself not thought.

It is in another direction entirely that a really serious deviation from the conventional methodology occurs. Just as mathematical logic, and affiliated studies, offered previously a profound contrast to the traditional conception of thinking, so here they present a usage of truth-value equally divergent. Truth is a quality intrinsic to a system of propositions. A brief consideration of the structure of systems will make this clear. A doctrine consists of its postulate set and its propositions. The postulates are taken as true. They are not true in relation to anything other than themselves. They are true in themselves, because they are taken for systematic purposes in that way. The definitions are similarly taken as true, or are neither true nor false if they are merely arbitrary notational references. The propositions are true if they stand in a certain, specific logical relation to the postulates and definitions, and false if they stand otherwise. The truth and falsity of the propositions is their quality in a systematic relationship, entirely intrinsic, and in no relation to any facts or propositions

or standards outside the system. The system itself as a whole has a certain quality of truth if its postulates are self-consistent and independent, and if it contains no false propositions, but this again is obviously an intrinsic attribute of the system, and not a quality it possesses because of standing in relation to anything other than itself.

The variety and complexity of symbolic and logistic systems is very great. An adequate account of them cannot be given here. What is important is the contrast between mathematical (or geometrical) thinking and the more familiar scientific (or empirical) thinking with regard to truth, as well with regard to actual procedure. This contrast should be developed a little further.

Empirical thinking is to be distinguished from mathematical thinking by this condition, among others, that the former submits its rational processes to the judgment of validity in terms of extrinsic criteria, facts, experiments, etc., whereas the latter submits its rational processes to the judgment of validity in terms only of intrinsic criteria, consistency, demonstration, etc. The original thesis that thinking seeks to end in knowing, that it seeks to rest in truth, has evidently quite different force if understood in the light of empirical or mathematical requirements. In the one case, thinking is controlled throughout by a truth reference to entities beyond its own processes; in the other, thinking is controlled by rules of truth or valid demonstration whose entire reference is exhausted within the processes of thought itself.

The requirements of empirical procedure might be summarized in a clause of the original thesis, that thinking is somehow relevant to experience. Experience is here employed as a blanket term for any of the entities or items which have been previously designated as extrinsic to thought. Such entities have been variously denominated as "facts", "realities", "nature", "subject-matter", "immediate (as opposed to mediate

or reflective) experience", "data", "objects", or "events". This enumeration may not be exhaustive, but at least the character of the entity[1] which can be properly classified there among, is determinate. It is any entity which in any given instance is not an "idea", "judgment", or "proposition"; the entities so classified are those about which ideas, judgments, or propositions are made, and it is in the sense of this relationship between these two exclusive classes of entities that it is asserted that thinking is somehow relevant to experience, that it must take account of experience, that it is true thinking when it fulfils certain requirements in relation to experience.

It must be clear from the foregoing exposition that the kind of thought which a system *in ordine geometrico* represents, not only does not satisfy empirical requirements, but denies their relevancy. Logical caution makes a certain distinction expedient at this point. It is not asserted that mathematical or geometrical thinking is without a subject-matter, which would mean that it created a set of propositions made about nothing. It is asserted, however, that thinking which assumes the logical form described as mathematical, does not derive its validity from reference to its subject-matter, but from reference to its own internal structure. What may seem puzzling and, perhaps, incongruous about the two preceding statements is dissipated by the realization that a geometrical system defines its own subject-matter so precisely that if it is true internally, it is equivalent to saying that it is true of its subject-matter. Its "facts" are really contained in its definitions, its

[1] The word "fact" is used throughout this book to designate this class of entities. It must be distinguished from the logical usage of "fact" as what a proposition asserts or denotes, and from the description of the proposition as a "logical fact". Unless otherwise stated or qualified, fact is herein restricted to mean an object, event, or an existence—whatever may be the subject-matter of a proposition, but never its subject. A fact, in other words, is always transcendent, and always an individual.

postulates and its propositions; whatever being or reality they may have beyond the confines of their defined significance in the given system, is ignored by that system.

Geometrical thinking has been neatly called " if-then thinking ", because its pattern is that if such and such postulates are true, then such and such propositions are true. It does not assert the truth of the postulates; nor does it assert the truth of the propositions apart from the hypothetical truth of the postulates. The postulates may or may not be true; the propositions may or may not be true on their own right, in terms of the facts or of reality, or in some other system. It is neither asserted nor denied, however, that they are or are not. What is stated is merely that if such and such is so, then such and such is so, and that for purposes of determining a system of such relationships, we are assuming such and such to be so. Truth or validity enters into this system as a ruler enters into the business of measurement, If this, then that, is either true or false. That either follows from this, or it does not, and whether it does or not, can be determined with the given elements by rules of correct inference, and rules of demonstration. It should be understood that such rules of inference or of demonstration are themselves assumed to be true. They could not be demonstrated to be true without being assumed themselves. Truth or validity, then, in geometrical thinking is merely a certain relationship obtaining among propositions in a system, such that if one is so, then the other is so; truth is absent when a relationship obtains between propositions in a system such that if one is so, either the other is not so, or it is not possible to assert or deny the other. If any postulate or proposition of a system is found or taken to be not true then any other proposition which depended upon it for demonstration is thereby not disproved but unproved. The problem of the validity of two systems which somehow stand in contradiction to one another

or are in some way inconsistent with one another is not at present relevant. It will be considered later.

That truth is in some way a standard for judging the products of thought has been denied nowhere in the foregoing discussion; rather the contrast between the use of that standard and its implications, in the kind of thinking which " is somehow relevant to experience " and in the kind of thinking which follows the " if-then " pattern, has been defined.

There is, however, a more radical departure from the convention of the traditional methodology. A kind of thinking has been mentioned which has been variously called conversational, argumentative, or dialectical. The form or pattern of this kind of thinking has not been described or discussed, except in so far as the dialogues of Plato, the technique of mediaeval debate of theses, and the logic of Hegel, were indicated to exemplify it, or in so far as one's ordinary experience of human conversations and disputes was invoked to give denotative meaning to the reference. Without entering here into the analysis of dialectic which it shall be the purpose of this book to present, it may be possible to suggest, crudely perhaps, in what sense it may be said that truth is irrelevant to dialectic. Dialectic may be, in other words, an instance of thinking which the conventional thesis that thinking ends in truth, fits, if at all, even less than it does geometrical thinking.

The consideration of arguments or disputes of any sort, without attempt to reveal the logical pattern which inheres in and informs them, leads to the rather commonplace observation that they end in agreement or disagreement between the disputants, rather than in truth. It may commonly be held that when two parties to a contention conclude in agreement, they have arrived at the truth, but logical grounds for this common opinion seem to be lacking. It may barely be said, if one wishes to be cautious, that their agreement implies either that they understand one another, or that one surrenders

his position in favour of his opponent's, or vice versa, or that both have assumed some third position different from the original two, or that they are able to translate their opinions mutually in such a manner that each retains his original position, and at the same time acknowledges and understands the other. The various opinions under discussion may or may not be true, either empirically or in the if-then sense; whether they are true or not does not seem to be in any way genuinely determined by the agreement of the disputants in the case.

An argument which remains unsolved, that is, does not conclude with agreement, should be similarly interpreted. The irresolution implies either that the two disputants did not understand one another, or that neither would surrender his position in favour of the other, or that the process of mutual translation did not occur. It is not implied that either of the two unresolved positions are false, that both are false, or that both are true, although, in the empirical or in the if-then sense, they may be in any one of these states of validity.

Arguments are concluded in one of two ways, agreement or disagreement, but an important distinction must be made between two sorts of entities about which agreement and disagreement can take place. Two disputants may be discussing either certain opinions or certain facts. As soon as a "fact" is introduced into the discussion, genuine controversy ceases. Either the said entity is admitted as a fact, in which case there is nothing more to be said concerning it, unless further statements or opinions are made about it. In that case the dispute goes on concerning these opinions and not the facts. Or the entity in question is not admitted as a fact, and nothing more can be said about it. In general, then, it may be declared that arguments are concluded by the introduction of "facts", or by the agreement or disagreement of the parties to the argument, concerning the opinions at issue.

Until a more complete analysis of dialectic is given,

the precise significance of truth-value in this process of thinking cannot be ascertained. For the present it must suffice to indicate briefly the relation of dialectic to geometrical thinking and empirical thinking with regard to the thesis concerning truth.

In argumentative thinking two systems of propositions seem to be in opposition. It is about these two opposed systems that dispute seems to be taking place. In so far, then, as the validity of the propositions within either of the systems is to be determined, dialectic closely resembles geometrical procedure. The determination is made in terms of implication according to the canons of demonstration. But in so far as the validity of the two systems is to be determined, in order that the opponents may agree or disagree in some specified manner, a problem that has not yet been treated arises. This is probably the root problem of dialectic with regard to truth, and for the time being it need only be pointed out that the truth of systems in conflict is not determined by reference to extrinsic criteria, but by an internal process—the essential process of dialectic—which closely resembles geometrical procedure and does not in any way satisfy empirical requirements. Dialectic is a process of thinking which never seeks truth in the empirical sense, although accidentally it is often concluded by the intrusion of " facts ". It would be more accurate to say that facts stop or destroy dialectic ; they do not furnish dialectic with a logical conclusion ; and it is in this latter sense that dialectic does not aim at empirical truth.

It is apparent, also, that argument, that is, actual human argument, depends upon language, or at least, must employ language ; and that this adds to the problem of determining the truth of propositions in argument, the problem of determining their significance. It may be, but is not here asserted, that the end of dialectic is understanding rather than truth, that dialectic seeks to determine the meaning of propositions or opinions in

debate, rather than the relative truth of them. If this were so, the conclusion of an argument by agreement, would imply the achievement of understanding, or the ability to translate mutually from one system into another, rather than the attainment of truth. Truth in dialectic or argument may mean nothing more than such agreement or translation. In other words, arguments may lead to truth when they lead to common understanding.

Finally, the issue must be raised concerning isolated propositions. In so far as thinking is either geometrical or dialectical, opinions or statements, propositions or ideas always occur in a definite context which is or should be capable of definitely determining their significance, and in some instances their demonstrability. The requirements of empirical thinking seem to make it possible for an isolated proposition, opinion or idea to be true out of any definite context, if it holds a certain specified relation to the facts in the case. This issue will be met in a later phase of our discussion ; it is raised here only to qualify further the precise force of the thesis that thinking seeks to end in truth, since the truth of an isolated proposition seems to be obtained upon different grounds from the truth of propositions in demonstrative or dialectical contexts.

It should be repeated in summary that the fourth and last thesis employed in the exposition of the traditional conception of the nature of thinking, has not been denied or asserted. It has merely been considered in relation to the problems which its interpretation generates, and in relation to the three different types of thinking, the empirical, the if-then, or geometrical type, and the argumentative or dialectical. It seems apparent that the thesis has a different force and significance in each of these cases.

2. Traits of Controversy

The foregoing discussion brought into relief a number of contrasting attitudes with regard to the character of thought, its methods, and its definitive ends. The conventional doctrine was expounded by submitting its theses to interpretation and to the opposition of several diverse and antithetical considerations. In the course of that exposition it was observed that a certain intellectual congeniality obtained among these dissenting points of view. It may now be possible to frame a new doctrine, which shall express this dissent more systematically. This would be a new methodology; perhaps, it were better to say that this would be a different methodology, for it is a synthesis of many conceptions that are historically familiar with some that are recent and novel. At least it will present a theory and an analysis of thought, both with regard to its factors and its ideals, in sharp contrast to the conventional and accepted understanding of these matters.

Empirical or scientific thinking has received thorough formulation. In fact it is precisely empirical or scientific thinking which is described by the conventional methodology of the modern tradition, the methodology of induction and deduction, of thinking the end of which is the ascertainment of the truth about the facts. Geometrical or mathematical thinking is also not without careful exposition in the literature of method. It is dialectic alone which, in the modern tradition at least, has not been adequately treated. Both ancient and mediaeval culture appreciated its significance, and the latter carefully formulated a great part of its technique, in theory as well as in practise. It is dialectic which we have discovered, or rediscovered, in the criticism undertaken of the traditional theories. The formulation

of dialectic as a methodological doctrine will not only supply a commentary upon a kind of thinking that has been neglected in favour of science and experience, but it will also bring together in a single statement the older historical conception of dialectic with a number of dissociated interests, in recent speculation, that should be allied therewith.

Dialectic needs no discovery except in theory. In practise it is a common intellectual instrument, a device that most human beings employ in any conversation which becomes contentious or argumentative; it is the way in which human opinions are opposed to one another, defended, assailed, criticized, combined. For the most part, however, dialectic as this set of intellectual processes, has not been explicitly recognized. The discovery of the theory of dialectic should certainly clarify and perfect the practise of it. It may do more than that. By the theory of dialectic is meant a thorough methodological analysis of the psychological factors, on the one hand, and the logical structure and implications, on the other. Such analysis may lead to a radical interpretation of science and philosophy, and may institute a divergent set of intellectual values. Whatever be the consequences of such an undertaking—and it would certainly be unwise to predict them or to judge their worth in advance—the attempt to describe dialectic is justified by reason of its continual emergence in the actual discourse that in large measure forms our intellectual life, and by reason of the fact that dialectic represents a doctrine of dissent from conventional methodology.

The discovery of dialectic has really been made in terms of the objections raised to certain of the theses already discussed, and in a general way, therefore, a preliminary statement can be given of the attributes and phases of dialectic which will enter into our exposition.

In the first place, dialectic may be concerned with ideas, but in its actual occurrence dialectic is concerned with ideas only in so far as they are linguistically expressed.

Controversy and argument are usually spoken of, sometimes eulogistically and sometimes in derogation, as mere "verbalism". This is not inaccurate, whatever the imputed evaluation be. Argument is almost invariably a matter of words. If words are taken to be symbols having meanings not always precisely determined, then one of the chief functions of argument or dialectic is to introduce definiteness into discourse. Dialectic and the study of linguistics are thus closely related, since both of them are occupied with the relation between language and thought, between language and the phenomena of meaning. One of the first tasks in describing dialectic, then, is to deal with the problems of language.

Dialectic is thinking in discourse; its realm of being is the universe of discourse; and to determine the relationships that obtain between items in discourse is in part to define the nature of dialectic. It is entirely an affair of words; but it is not "mere verbalism" unless words are to be taken as insignificant entities. Terms and propositions, words and sentences, are the symbols and statements of meanings. It is the confusion and contradiction of meanings that creates issues in discourse and gives rise to dialectic.

In the second place, dialectic is a form of thinking which cannot be properly characterized by, or completely subsumed under, the rules of induction and deduction. This seems to be connected with the fact that dialectic depends upon an intellectual situation that is not relevant or susceptible to the processes of induction or deduction in any simple manner of their usage. The latter are techniques of investigation and demonstration, and are available for the purposes of natural science or geometry respectively. But the intellectual situation that confronts us in the case of argument or controversy is a situation in which the fundamental purpose is the resolution of an opposition of opinions, and dialectic as the technique of resolution has a formal pattern of

its own to regulate its proper procedure. The description of dialectic thus involves an analysis of the procedure by which conflicts in discourse are met.

Actual controversy occurs when two minds are engaged in dispute. It is evident that such dispute could only occur because the two individuals in question are in some way partisan. They have taken sides; they are defending or attacking beliefs or propositions. Partisanship, then, is an essential factor in the event of dialectic. But partisanship does not necessarily imply an actual duality of individual minds; it exists wherever opposition occurs in discourse and remains unresolved. The appreciation of such opposition, and the attempt to resolve it, requires partisanship, whether the appreciation be the act of a single mind or the result of two minds in intellectual conflict.

In the third place, the disagreement of minds, or the controversial issues in discourse which a single mind may attempt to settle dialectically, are not purely rational or intellectual in origin. Emotional persuasions of one sort or another, the limitations and eccentricities of understanding and interpretation, the purposes that control the theoretical as well as the practical life, are more or less responsible in some part for the generation of disputes or difficulties with regard to opinion or conviction. The same factors operate also throughout the course of any instance of argument or dialectic, and obviously account must be taken of them if the psychological analysis of dialectical thinking is to be adequate.

Furthermore, no argument can ever define all of its terms or proceed without the making of assumptions, whether implicitly or explicitly. It may be that arguments occur fundamentally because of differences of definition and diversity of assumption on the part of the disputants. Or in the case of the opposition of opinions, such opposition may similarly be caused by differences of definition and assumption. If dialectic

is the technique whereby such oppositions are dealt with, then clearly it must be intimately concerned with the careful, explicit statement of premises or postulates, and the exact definition of the terms in discourse.

In so far as definition and postulation are arbitrary, the conclusions which flow therefrom must be qualified by this character of their source. Two conflicting opinions, in other words, cannot be considered in isolation. They do not occur in isolation, but rather in the context of a controversy. This is similar to the position which propositions occupy in a system. The meaning of such propositions, and of controversial opinions, is entirely determined by their systematic contexts. And if their opposition is to be resolved, it must be resolved in terms of the definitions and postulates from which the elements in question derive.

Dialectic, then, faces this alternative. It involves partisanship in so far as it occurs only in the presence of genuine intellectual options; but in so far as it recognizes that the issue with regard to which it is actively partisan arises through arbitrary differences in definition and assumption, it must assume a certain impartiality toward the issue in question. It must appreciate, in other words, that if this is so, then this follows, but if that is so, then that follows. Until it can be proved that either this is so or that is so, impartiality must be maintained toward what follows from either set of assumptions. This attitude of impartiality need in no way be inconsonant with the active partisanship with which the dialectical process engages in deriving consequences from the diverse premises, and in attempting to resolve the differences in definition and assumption involved. Should the resolution be effected, partisanship ceases, and the need for impartiality ceases as well. In the dialectical process, intellectual impartiality toward the two sides of the issue in dispute seems to be required by the very conditions that generate the partisanship and the dispute

itself. When these conditions are removed from any instance of discourse, dialectic itself ceases.

In the fourth place, if dialectic is genuinely an affair in discourse, it can in no way be impeded or facilitated or directed by the adduction of, or reference to, " facts ". If a " fact " is intruded into discussion, argument terminates at that point, and must be taken up elsewhere. To dispute a " fact " implies either a misunderstanding of what the facts are, or a difference of opinion as to what are the meanings of the facts in question. If the former is the case, argument is irrelevant. Facts cannot be discovered in discourse or by any amount of discussion. They are found out by investigation, observed, pointed to, agreed about, or assumed. If the latter is the case, it is proper for discursive thinking to take place, for it is the business of such thinking to undertake the clarification and establishment of meanings. Argument is concerned not with what is, but with what is to be understood.[1]

It follows accordingly that truth, when it is taken to mean an extrinsic relation of thinking to entities beyond the processes of thought, cannot be achieved by dialectical thinking, whether the resolution of the dialectical issue is achieved or not. The only way in which the criteria of validity can be employed in the judgment of argument is in the rôle of rules of inference by which it may be ascertained whether certain opinions are demonstrable in terms of certain others. If this is so, it may or may not follow that that is so ; and the establishment of the conclusion, that that is so, may be valid or invalid accordingly. But such validation takes place entirely within the boundaries of discourse itself, and has no

[1] Legal casuistry is an excellent example of the dialectical manner of proceeding with regard to the " facts ". A certain set of facts is accepted as evidence, and the process of the casuist is to render one interpretation more cogent, or, perhaps, more congenial than another. It should be noted that casuistry consists in interpreting data, and never in adducing or discarding evidence. Similarly, the processes of diplomacy, of medical diagnosis, and of moral or æsthetic deliberation, are dialectical in that the facts—international events, symptoms, etc.—are taken as established, and the task is to determine their significance.

reference to the facts, or experience, or any other entity or element which is non-discursive in character. This does not imply that discourse is totally unrelated to the universe which is not discourse. The relationship that does obtain between these two realms is one of the problems to be treated later in the fuller analysis of dialectic. What is suggested by the present discussion is merely that although controversies may take place about opinions and propositions which are believed, that is, held to be true in some sense of the word other than " validly following from ", there is nothing in the nature of the dialectical process itself which can ever establish the truth of a proposition or an opinion in any sense other than that of " validly following from ". Dialectic thus cannot properly be said to result in belief; it may be possible to show later that, quite to the contrary, dialectic in its joint attitudes of partisanship and impartiality discourages the belief-attitude entirely. Stated most radically, belief is as irrelevant as facts are, to the nature of dialectical discourse.

This concludes a brief preliminary statement of dialectic as a methodology, and of the problems to be encountered in the detailed description of that methodology. It may be summarized in the following theses :—

(1) Dialectic is an affair in discourse.

(2) Dialectic arises through the opposition of meanings in discourse.

(3) Dialectic in the recognition of this opposition must be partisan in its attempt to resolve the opposition.

(4) Dialectic in the recognition of the grounds which prevent the resolution of differences arbitrarily established must be impartial toward the consequences of these differences.

(5) Dialectic is confined entirely to the realm of discourse, and thus is inconsiderate of entities outside of discourse.

(6) Since dialectic is considerate only of the meanings of entities in discourse, it cannot establish truths or guarantee beliefs which depend upon the relation between discourse and items not in discourse.

Properly to expound these six principles concerning dialectic as a method of thinking, and to develop their implications, is the task of the second part of this book. They are here stated arbitrarily. The more elaborate analysis which is to follow should reveal their psychological and logical grounds, should explicitly define the conceptions and state the postulates in terms of which dialectic itself can be discussed dialectically.

3. Specimens of Human Discourse

Dialectic might have been discovered otherwise than through the criticism of traditional theory and the consideration of history. It might have been observed where it actually occurs in the conversational practices of human beings, their arguments and controversies, or in those dialogues which the mind holds with itself in the solution of its intellectual difficulties. It might have been discovered, in other words, in the proper sphere of its being—in discourse.

To behold dialectic as it is actually occasioned and in the diverse manners of its occurrence should precede the attempt to describe it analytically. Discourse may be made an object of study, and analysis can then reduce the variety of its manifestations to abstract order. This abstract order must not seem imposed upon the dialectical process; it should rather appear to be, as it is, derived from all the various ways in which dialectic can take place; and to guarantee this perception, observation should precede analysis. It might also be asserted that the dialectical process never actually occurs in the formalized pattern which subsequent analysis reveals; with respect to that formal structure, the dialectical instances of conversation, argument, and intellectual deliberation are either incomplete, in an alogical order, or imperfect, through some one or another possible deviation from the archetypical procedure. This very imperfection recommends such cases as illustrative subject-matter, for were human discourse to embody dialectic in its abstract and formal perfection, the analysis of it might be a thing of beauty, but certainly of little use.

The following instances have been chosen because they are fairly commonplace and humanly familiar;

if they develop profundity, that itself is a commonplace circumstance for it is the nature of profundity to be ubiquitous in discourse. Most human conversations usually dwindle or stop at the point where profound and abstruse considerations seem inescapable if the conversation is to be prolonged; and this should be well observed, for it is this inevitable leading of discourse into dialectic, and of dialectic into philosophy, which may be said to constitute the deepest significance of both discourse and dialectic, and which may occasion a reinterpretation of the meaning of philosophy. That, however, is the theme of the third part of this book. For the present, the examination of specimens of discourse is to be undertaken simply with a view to exhibiting in the manner of a botanist or an entomologist, the variety of species which, however, seem to possess a certain homogeneity of form. The only comment to be made upon these specimens at present is merely to guide in the observation of them, but not to analyse them. They are presented in an order roughly designed to progress from extremely simple cases to more involved and complex ones. They do not all assume the dramatic form of the dialogue; some are conversations of the sort that occupy moments of soliloquy.

(1)

The story is told of Mr Lincoln that in one of his earlier campaigns for the legislature, he turned to his opponent and said, "Mr So-and-So, suppose I called the tail of a mule a leg, how many legs would the mule then have?"

Mr So-and-So replied, after a moment's thought, "The mule would then have five legs, Sir."

"No," said Mr Lincoln, "the mule would have only four legs. Calling the tail a leg doesn't make it one."

The conversation went no further. Both Mr Lincoln and his audience were satisfied with the sharp, concluding sally, which seemed to distinguish Mr Lincoln for excellent horse-sense, and his opponent for being made an ass without being called one.

But the conclusion is not entirely satisfactory when considered apart from the particular political occasion in which it was useful. Objection might be raised to Mr Lincoln's easy solution of his own question. If the tail is called a leg, there is an answer to the riddle which is neither five nor four. It might be offered that the mule in question would then have only one leg, for if the specific appendage which hangs from the coxcygeal limit of the vertebral column is designated as a " leg ", that symbol retaining its customary and conventional meaning, then it seems questionable, at least, whether the four appendages which serve as supports for the mule's body can properly be designated by the same name. The difficulty arises largely because the name " leg " and the name " tail " can be defined both to connote certain structural aspects of the mule's body, and certain functions which they serve in the mule's life ; and also to denote, or point to, this or that about the mule. " Calling the tail a leg," which Mr Lincoln took to be a less subtle matter than it really was, creates the conflict in discourse above suggested, and allows for three possible assertions : that the mule has only one leg ; that it has merely four legs ; that it then has five legs.

These three assertions, in answer to the query, " How many legs has the mule in question ? " illustrate a number of things which happen frequently in discourse. Incidentally, three types of mind are more or less exemplified in Mr Lincoln's commonsense refusal to make distinctions in discourse which do not seem to be matters of fact, in Mr So-and-So's identification of distinctions in discourse with matters of fact, and in the third party's dialectical conception of the problem

as one merely of making distinctions in discourse. Mr Lincoln and his opponent were both concerned with a question which might be phrased, How many legs has a mule if you call the tail a leg? They verged on an experience of dialectic which they did not enjoy because they did not properly understand the only question over which issue could be taken, to be: What does it mean to call the tail of a mule a leg? What at first seemed to be a matter of fact thus becomes a matter of discourse, and dialectic occurs as soon as any one of the three answers is given to the second of these two questions.

It is not here asserted that the correct answer to that question is either one, four, or five. To make that assertion would be equivalent to asserting the answer as a matter of fact, and further discourse would be gratuitous. That the question offers the possibility of three answers, no one of which need be asserted as a matter of fact, indicates the dialectical character of the question, and emphasizes the fundamental aspect of discourse which renders it dialectical, the possibility of opposition and controversy.

That aspect of the dialectical process which is concerned with the problem of definition is nicely illustrated by this story. The force of definition, its range, the relation between its denotative and connotative dimensions, could be studied in terms of this simple issue in discourse which came from calling a tail a leg. And in part the attitude taken toward each of the three answers and one's understanding of their significance, would be determined finally by the theory of definition applied. If the tail is to be called a leg, and the legs are still to be called legs, the meanings of both "tail" and "leg" are thereby altered; or perhaps, if the tail is to be called a leg, and legs are to be called otherwise, then "tail" is given the meaning of "leg" at least to the extent whereby tails and legs remain distinguishable and accurately numerable, if legs are called by some other

name. There is no question about whether tails would ever be mistaken for legs in fact; it is simply a question of how many tails or legs a mule has, "if the tail be called a leg."

Each of the three answers to the question is *true* in terms of specific interpretative context, determined by the definitive act; and it is *true* only in the context of one or another given system of defined terms. That the mule has five legs is a proposition which can be neither significant nor true nor false taken as an isolated proposition, an entity abstracted from its setting in discourse. This applies equally to the other two possible assertions. But if the proposition is understood in the light of certain definitions which could be offered, it might be made both intelligible and true. Its truth would be the truth of following properly from an arbitrary origin in discourse. By itself it would neither be true nor false; nor is its truth to be judged in terms of the facts. The facts, it is assumed, if they are facts, remain unaltered, yet each of the propositions can be so interpreted systematically that they can be asserted significantly and truly. The mule may walk on its four legs and wag its lonely tail for ever, and never be able to determine the answer to the dialectical question asked about it. It has done excellent service, however, in illustrating clearly one of the chief functions of dialectic in the treatment of assertions, not as capable of being true in themselves in isolated status, nor capable of being true in relation to the facts, but only in terms of a systematic context of interpretation, a set of other propositions, some of which are definitive.

To carry this little discourse concerning the properties of the mule any further in an effort to resolve some of the difficulties which have been generated, would lead the discussion into the making of abstruse and subtle distinctions and definitions about identity, likeness and difference, substance and attributes, structure and function. It might be possible in such terms to

come to an understanding of the three assertions which would resolve their ambiguities, adjust their conflicting claims, and perhaps make possible their mutual translation. But human conversations usually stop far short of such ultimate intellectual pursuits, partly because the introduction of the abstruse and the subtle frequently evokes epithets of derogation or of protest such as "sophistry" or "hair-splitting" or "scholasticism", or even sometimes "dialectic". Such a judgment would not be unfair, for it would certainly be dialectic; but just as certainly was it implicitly dialectical in origin as it would be in this eventual termination.

(2)

Very often after witnessing the performance of a play a person confesses his enjoyment and adds by way of praise that the characters were very real.

His companion has not found pleasure in the presentation and particularly finds no warrant for the assertion that the characters were very real. Rather the opposite. It was a poor piece for the very reason that the *dramatis personæ* seemed so absurdly fictitious and impossible. The competent performance had been wasted on an unconvincing concoction.

A third member of the party found the play delightful but precisely because the characterizations were so fanciful, so odd and unlikely. A work of great imagination.

An argument ensues if they are in a favourable physical environment for discussion, over cups or glasses, and have the time to squander in an idle fashion. The controversy probably revolves around the asserted and questioned "reality" of the characters, or more generally, perhaps, the "realism" of the entire play. The argument cannot be about whether the play was enjoyable or not; it surely was so in two cases, and not in the third, and although such facts were undoubtedly responsible

for the occurrence of the controversy, and for the differences of opinion, the discourse which eventuates therefrom must ignore them. Enjoyment was experienced by two persons, but for different reasons; whereas two persons in essential agreement concerning the point at issue, do not at all agree in the emotional colouring of their common perception. This is obvious in the way in which they diversely phrased their judgments, having more or less similar intent.

The argument which takes place never determines, of course, whether the reasons given for finding the play satisfactory or unsatisfactory were actually the causal determinants for the decision about and reaction to the play, or whether they were merely those reasons, given after the æsthetic response and judgment, which are technically called rationalizations. The argument is not concerned with this problem, although at another time it might be; it is concerned for the present with the question of the realism of the play. The possibility of non-rational, emotional determinants in this discussion must not be forgotten, even though they can never enter into and be stated in the discourse.[1] They constitute the imponderables of any argument, its non-discursive and irrational factors.

The characters were real, says the one; they were recognizable. I know their duplicates in life.

Not so, says the second. They are much overdrawn and exaggerated. They are psychologically impossible. You must be misled concerning your acquaintances if these are their prototypes.

They seem very much unlike my friends, says the third. But they are certainly not unreal in the sense of being psychologically impossible. That is precisely what is delightful about them. They are psychological possibilities, quite fantastic, perhaps, but quite consistent in their own natures.

[1] See below, p. 126.

I am certain that I know those people well, replies the first. They are terribly real to me—but hardly having consistent natures. They don't know what they are about—they are neurotics, all of them, and so are my friends.

I suppose, says the second, that there is no use arguing with you about whether you know them or not. If you do, they probably seem real to you. Thank God, my friends are not like that. They seem outlandish and impossible to me. Perhaps being neurotic means being unreal to me.

Quite possible, you incorrigible extrovert, adds the third. And now I know why you didn't enjoy the play. You didn't understand it. Perhaps you are right (to the first), they are neurotics. But they are not types at all. Every neurotic is as much an individual as every extrovert. They are not real because they resemble somebody you know. They are individuals, and have individual characters. They are not abstract patterns to be compared with originals off the stage. As individuals they are very well done, well created.

But, interrupts the first, you've changed your position. According to what you are now saying, no characters can be real, if it is unfair to judge them as types or because they resemble somebody you actually know. Every character would be unreal in that case, if the character has what you call individuality. I agree with you (to the second). These characters are not real for you because you don't know my friends; if you did, you probably would agree with me, wouldn't you?

Yes, says the second, I should call them real in that case. The only real person in the play for me was that simple-minded chauffeur. Quite possible, and quite real.

But as for you, the first again turns to the third, what in the world can the word real mean to you?

I guess I have changed my position, admits the third. But now I can state what I really think about all this clearly. I object to calling characters in a play either

real or unreal. They are creations, just as you and I are creations, and as such they are either good or bad, pleasant or unpleasant, attractive or unattractive, in terms of whatever standards you are pleased to judge them. But to call them real in the sense of resembling a creation of another sort is a meaningless way of talking. Are they real if they resemble one another? Are you and I real because we may happen to resemble one another. No, that would mean nothing. Well, then, it is nonsense to judge characters in a play real because they are prototypes, or because you recognize something else in them.

But don't you make any distinction between a real person and a fictitious person, asks the second. You and I are real. We are alive and exist. And when you call a character real you mean that because it resembles someone who is alive and exists he could be real even though he isn't. You don't ever mean that the character is really real. You simply mean that the character could be real. It's a possible character. That's why I agree with you (to the first); but I don't see what you do about the distinction between real and fictitious, between possible and impossible.

I guess, thinks the third, that you two agree sufficiently about what you mean; but I'm afraid that I disagree thoroughly with both of you. As I think more about all this, it seems to me that fictions live and exist, only they live and exist in a different way from the way you and I do. They lead the lives of characters in a play or in a book; they exist as fictions. You and I exist as human beings who were born of woman rather than of a man's brain. But we are all real in our own way, though it is clear that the way is very different. I should agree with you that whatever is possible is real, and what is impossible is unreal, but what is impossible? I couldn't possibly be you, any more perhaps than these characters could possibly exist as you and I do. But they are possible as characters, and exist as such, and are real as such.

If they contradicted themselves in their own natures, then they would be impossible and unreal. But they don't do that. That's why they are real and possible for me; but very different from anything I know. That's why I enjoyed the play. It exercised my imagination.

Oh, we agree essentially, says the first, all of us.

Yes, says the second, it's just a matter of our experience being different. If it were the same we should agree perfectly, except about the use of words. He (the third) wants to use the word real in his special way, but as long as we understand the way he is using the word, it's all right.

Our experiences are certainly different, concludes the third. But more than that our own natures are quite different. I don't really think you (to the second) could ever enjoy a play like this; and I don't think it is just a matter of using words. I think there are good reasons for distinguishing between different kinds of existence, and of trying to understand the relation of possibility and reality. I don't think we agree as much as you think.

Well, never mind, replies the first. We agree enough. If we don't stop here we'll get into all sorts of hair-splitting distinctions and philosophical riddles. Let's leave well enough alone. We've had enough enjoyment and enough agreement for one evening.

And the discussion ceases, or turns to other topics. The controversy may be ended, but it has certainly not been concluded, and it may or may not be possible that it ever could be.

It was a discussion about words, the meanings of such words as " real ", " exist ", " possible ", " resemble ", " consistent ", " self-contradictory ", " fiction ". But it was an unclear discussion. It was unclear not only because emotional and egocentric factors were productive of differences of opinion ; but more fundamentally

because those opinions, however founded, were not submitted to the clarification which might have been given them by a more thoroughgoing dialectic. Dialectic was implicit throughout this discourse, but as it made itself more and more apparent toward the end, it was avoided deliberately. However polite and pleasant it might be considered as a social occasion, intellectually it was an instance of bad manners.

Had the discourse gone on further and been more explicitly dialectical, the parties to it might not have reached greater agreement than they did. What actual agreement they did reach is difficult to ascertain because of the indefiniteness with which they took and left their terms. But the possibility of their ever completely agreeing or understanding one another may be fundamentally conditioned by the limitations and privacy of their experience, the irrational elements in their several personalities, as well as perhaps by the profound difficulties in discussing some of the terms that would have eventually entered the discussion. The acknowledgment of such conditions does not justify, however, an evasion of dialectic, or further attempt to plumb the depths of discourse.

It is clear that facts played little part in this discussion. It either was a fact or was not, that the characters in the play resembled the first person's friends. That was to be admitted; or if doubted, it could not be argued about. It was rather the implications of the resemblances which taken for granted, or admitted as fact, created discussion by raising the question, Could such resemblance between characters on and off stage be used as a criteria for judging the reality of the characters? In other words, could "reality" be taken to mean that sort of thing? All the other genuine issues in this short controversy were of the same nature. They could be stated in terms of such questions as, What does it mean to say that fictions can be real? What does it mean to say that a character exists? What does it mean to say that a

character is possible? And in the consideration of these questions, distinctions were made between the really (or existentially) real and the real by resemblance; between reality and existence; between fictions and actualities; between the possibility which a thing has in its own nature, and the possibility it has because of the natures of other things. In short, this was, in germ at least, a philosophical discussion, and might have provoked more sophisticated disputants to brilliant dialectic.

Whatever minor turns such further dialectic might take, its conclusion could be only one of two sorts. A single set of definitions and assumptions might be achieved by further discourse, which would interpret the original assertions in such a way as to render them harmonious either in agreement or capable of mutual translation. On the other hand, such resolution might not be achieved; but clarification might result from obtaining the diverse sets of definitions and assumptions which could interpret the meaning of the several contrary original assertions. The parties to the controversy would be said to disagree but to understand one another in so far as they were able to perceive the derivation of their opponent's opinion from a given set of ideas, definitely stated. Partisanship would remain in this particular universe of discourse, and, if the nature of partisanship in discourse is properly understood, impartiality would have to be maintained toward the several partisan phases. This attitude of impartiality is equivalent to the perception that since the several asserted propositions can be asserted *truly* only as following from certain other unproved propositions, they may all be equally true; and none of them can be shown, within the limits of the discourse itself, to be true or false in themselves or with regard to the state of the facts. They may be true or false in either way; but that is not ascertainable dialectically. Therefore, partisanship must be accompanied by impartiality.

(3)

"'Love is not love that alters when it alteration finds.'"

She, to whom this was quoted on an occasion auspicious for argument, said, "That is not so. Love alters fitfully; alters even in the absence of alteration in the loved one."

He replied, "I should go further in the opposite direction. Love is not love that alters regardless of any circumstances. That which a person has ever loved he cannot fail always to love. Should he find that he no longer loves, he has found that he really never loved."

"You seem to be contradicting obvious facts, or else I do not understand you. Certainly you admit that most men fall in and out of love frequently and with great ease. Does that mean that they have never loved at all? If so, love must be a very rare thing; for who has loved in a way untouched by fickleness or infidelity?"

"To love properly is undoubtedly rare. I admit that, and am not ignoring the facts. I avoid contradicting them by saying that if men fall in and out of love, love this person now and then another, then that is not what I mean by love."

"But it does not seem intelligent to me to define love in such a manner that most human beings are incapable of it. When I say that I love you or anybody else it may happen to be, I am reporting, honestly and sincerely for the time being, a state of my feelings. But feelings are of all things transient; desires pass in the night, and one awakes in the morning with new hopes and new susceptibilities. Is it not clear that I may love to-morrow other than what I loved to-day?"

"As you use the word love, what you say seems true. If love is an affair of the emotions, of feeling and desire, I should agree with you concerning its inevitable transiency. Love so conceived would be dependent upon the body, not in the vulgar sense, but in the sense in which it can be said that the body active is the soul.

Love, if it is an affair in the world of bodies, whatever be their ultimate analysis into nervous systems and glands, love so conditioned would, of course, could not fail, in fact, to alter as its conditions altered."

"You seem to understand me. When one feels that one is in love, that feeling is probably due to all the circumstances you have mentioned. One desires to possess the object of one's desire to the full extent of one's desire; and love persists in such a situation until the desire changes or perishes. You understand this well enough, and yet you seem unwilling to accept this use of the word love. It seems to be the only kind of love that takes place among human beings; what use to conceive love in any other fashion?"

"This use, that whatever the facts of human psychology be, it is important to distinguish two conceptions of love that are usually confused in our conversations about it. When I assert that love cannot alter, I am referring to a certain possible relation between human beings. I believe that human beings are capable of loving in this way, and I should go further and say that they are only genuinely lovers when they love in this manner. The thing which you call love—the emotional state, the feelings, the desires—is love if it is united with, or partakes of, the state of mind which I call love."

"You must not be arbitrary about your definitions; the way you use the word isn't the only way in which it can be used properly. But I should like to understand your usage. Do you define love as a state of mind?"

"No, that would not be quite accurate. What I mean is simply this. We agree that love is the desire to possess the object loved. But we disagree about the manner in which objects are possessed. You seem to think that we possess them in some physical, social, or emotional way. I think that we only possess what we know. This, I suppose, is Platonism, and that would probably condemn it in your eyes. But consider for a moment what is implied. Knowledge is love

in so far as knowledge is the possession of its object. I am talking, perhaps, of a certain kind of knowledge, knowledge in which one is united with the object known. It is the way in which one beholds essences, qualities, forms, ideas, not the way in which one knows things. If one ever loves an object in this sense, one thoroughly possesses it, and since essences, qualities, forms and so forth, are eternal things, are out of time entirely, they cannot change, and therefore one's possession of them is an eternal thing. Duration is really irrelevant to love. If I have ever loved you in this sense, if I have ever possessed you as a certain essence, you might change actually, but the "you" which I once loved, this "essence" of you, could not change, and I would therefore always love it."

"You quibble. When you talk this way it is quite clear to me that it is not me, me as a person, whom you love. You love your own ideas. God forbid that they should ever change. You impose upon me your own ideal conception, you try to make it more real and objective by calling it my essence, as if you perceived this essence in me, rather than surrounded me with your own fancies. This essence is what you love and possess when you behold or contemplate. If I rebel, and change my person in relation to you, so radically that it is no longer congenial, even to a Platonist, to identify these essences with me, you cease to love me, the real me that I am acquainted with myself, and perhaps turn elsewhere. You find some other woman who submits to your intellectual witchcraft; the idealization again works for a while; you affix the beloved essences to her person, or delude yourself into believing that they were already there; and then claim that since the essences have not changed, you love the same object. And this could go on through endless such mutations. The only thing that does not seem to change, as far as I can see, is your own set of ideas; and it might be better if they did!"

"That is exactly the point—even though you don't seem to enjoy recognizing it. Though I may change from person to person, I am monogamously married to the essences I love—or if it suits you better, to my own ideals. It is clear to me that if love is the desire to possess, these essences or ideals are the only things I can genuinely possess. I possess them when I contemplate them, and contemplation of this sort is love. When I love you and then somebody else and then somebody else, it is always the same thing I love, though in different persons, and although you think that I surround the particular person with my own ideals, you must admit that the reason why, of all the persons in the world, I am capable of loving only a few, is because only a few are susceptible to this idealization, or as I prefer to put it, only a few persons manifest the essences I love. I did not maintain, remember, that love is always the love of the same person. I said rather that love does not alter—it is always love in the same way of the same object. And now it must be clear to you that the object loved is not a person, but some quality of a person, which that person either has accidentally or essentially. If the quality is accidental to the person's nature, it is probable that it will not be durable therein, and love will have to find another person. But if the quality is of the very essence of that person's nature, love will probably be of that person unto death."

"What you say is good poetry, good Platonism; but I am unable to ignore biology. I am a body, and it seems to me that my functioning, in love and other things, can be described entirely in biological and psychological terms, without any of this apparatus of qualities and essences, accidental natures and essential natures. And when I am so described, and my love is so described, both I and it can obviously change. In short, love seems to me to be entirely an accident, but one which unfortunately you will never experience in your pure contemplation of æthereal essences. Say that the love

of essences or that the love of God never changes, but don't say it of the love of woman; and being only a woman, that was what I was interested in talking about."

"You accuse me rightly of being a Platonist; but you seem to think that that means being a fool. I do not pretend to be a disembodied spirit moving among wraiths. I do not wish to kiss a ghostly essence. To love God apart from a woman may be possible, but I am not sure I care for it; but in loving a woman I wish to be able to love God. There may be many women, but God is one, and since it is God that I love in each of them, my love does not change. But if you insist upon talking only in the realms of biology and psychology, then I suppose you are right, for biological and psychological discourse describes only accidents, causes, and effects in the world of bodies. But if you could only see that body and soul were one, then you would see that though love changes as accidental conditions change, love in essence remains the same. That I love you as a person is certainly due to a whole series of accidents, adequately described by a biologist and a psychologist; but if I love you as a person properly, my love, though occasioned accidentally, is of your essence. If you change, you simply are no longer the person that I loved. My love hasn't changed; you have."

"You could not love me, dear, so much, loved you not—I suppose, essences the more!"

"Don't mock. Don't you understand me?"

"Perhaps, I am not sure. I am certain only that we are talking about different things. Love as I understand it undoubtedly changes, and there is no reason why it shouldn't, and every reason why it should. You don't deny that. As you define love you may be right about its eternality. Only your definition of love seems to me to be purely verbal. You build up a fabric of ideas and distinctions, in terms of which your conviction that love should not change may be held. I understand what you say; but as far as the facts go—"

" As far as the facts go, I love you, and there is nothing more to be said about it."

He kissed her. She remained silent. They rested in understanding, or perhaps beyond it.

The proposition that " love is not love that alters when it alteration finds " provokes discourse between a Platonist and a woman, the one affirming, the other denying the proposition. Their argument develops two utterly disparate notions of love. In terms of the one, it is not true that love is incapable of alteration ; in terms of the other, it is not true that love is love if it alters. The facts do not sustain either the denial or the affirmation of the proposition ; the only facts that are relevant to this discourse are the emotions and desires of the two parties concerned. They are not relevant in the sense that they in any way determine the abstract intelligibility or validity of the contrary assertions concerning love ; but only in the sense that they may have been casually responsible in generating the fundamental difference in attitude, temperament and insight which made the discussion the discussion of a genuine option. The controversy itself did not express these differences, although it may have reflected them. What it expressed was a conflict between two partial realms of discourse, and all the intellectual ramifications, the ideas and distinctions to which this conflict gave rise. The fact of love may have started the discussion, just as, perhaps, it ended it ; but the discussion was concerned with the definitions of love, and although ended, it was not concluded in the sense of being resolved.

This instance of discourse illustrates a common trait of human conversations. In the course of controversy the realization often occurs to the disputants that they are arguing about two different things, and when they realize that their only difference seems to be that they

have used the same word for dissimilar, and even contrary, significations, they agree. But this is merely the opening of dialectic, rather than its conclusion. Only clarification has been accomplished, not resolution.

In the present instance, the discussion was clarified by the distinction made between the love described by the biologist and the psychologist and the love described by the Platonist. Love, of course, having been defined differently in these two universes of discourse, it was love in two different senses that was being discussed, and the contrary assertions being made about it, could both be made validly in one or the other of these two universes of discourse. Contrary assertions were not made about " love " taken in the identically same sense.

But in the course of this discussion a number of distinctions were made that brought the two universes of discourse into conflict, stated in the dialectical question that was not, but should have been, asked: " What does it mean to love both as a body and as a soul ? " Distinctions had been made between essence and existence, between the unchanging qualities of a person and highly volatile personality whose attributes they are, between accidental circumstances and essential relationships, between the body and the soul, between action and knowledge, between knowledge of things and the contemplation of essences, between projecting one's ideal construction onto the object and perceiving the ideal, or form, resident therein, between the world of time and change and a realm out of time and unalterable. Love, although partially defined in one or another of these opposed conceptions, was said to occur in both realms simultaneously. This was intended by the statement that one loved not God apart, but God through woman, not disembodied essences, but essences exhibited in an individual. Agreement may have been reached concerning two possible ways of defining love and with regard to two assertions that could be made of love when so doubly defined. But it would have required

a much more arduous and prolonged dialectic to resolve the difficulty created by this double definition. For if it is asserted, as it was, that love may be a single entity, which has in part both the meanings which two definitions ascribe to it, then the original opinions that love changes and does not change, are again in conflict, and this conflict can only be resolved by a definition of love which will combine the other two definitions. In order to accomplish this resolution, love must be understood in such a way that a biologist and a Platonist will agree, not that they are talking of different things, but that they are talking of the same thing, which both changes and is eternal, and that they understand the sense in which it changes, and the sense in which it is everlasting. To arrive at this understanding would be a feat of dialectic, the establishment of translation between two universes of discourse that have been long asunder.

It is possible, on the other hand, that a discourse on love between a woman and a Platonist could never be resolved except in a manner suitable to the woman. But the Platonist would realize that action of any sort was the abandonment, rather than the abolition, of the distinctions which had been created in discourse.

(4)

Travelling in an omnibus one often becomes reflective in order to endure the tedium of the trip. Reflection, unless it be the carrying on of an internal conversation, is apt to be the statement of only one-half of a dialectic, the other half remaining implicit in the discourse. Soliloquy, however, is frequently a form of reflection in which consideration is taken of the oppositions and conflicts encountered in the elaboration of its theme. Such reflection is thoroughly dialectical.

In a usual omnibus journey passengers are observed to enter and leave the conveyance at various points

along the route. Few travel the entire distance from terminal to terminal. Thus, at any given stage of the journey there are gathered in the 'bus a group of individuals, the relations obtaining among them being exhaustively describable in terms of their spatio-temporal community for some segment of the total journey of the omnibus. Individuals acquainted with one another, or otherwise related to one another, either travelling together or meeting during the trip, form a small group of exceptions to the rule enunciated.

If these are statements of fact, what do they mean? Let us suppose that these individuals never again share a similar spatio-temporal community, and are subsequently related in no other way. This would then be the only instance of relatedness among this group of entities. No, that is not so. They share a larger spatio-temporal community than is afforded them by part of a journey on the same omnibus. They ride upon this planet together. They are in the universe together, and at any moment their spatio-temporal loci could conceivably be plotted, and the relation between any two or more of them accurately stated. There is no such condition of affairs as total unrelatedness; any entity which can be said to belong to a universe must be related in some manner to every other entity similarly allocated, and the simplest of these possible relatednesses is spatio-temporal. The omnibus is nothing more than a microcosmic suggestion of the universe.

But what is implied in asserting of an individual that it belongs to a universe? The individual is a part. The universe is a whole. The whole is an organization of parts, or an aggregate of parts. If it is an organization of parts, the parts are determined by that organization, that is by their definite relations to the whole and to all the other parts. Any change in the organism, or in any of its parts, affects the whole and each of its parts. If the universe is an aggregate of parts, the parts are not completely determined by the aggregate as

a whole, nor by all of the other parts or members of the aggregate. It may even be that no relation exists between some of the members of an aggregate, except at the most the relationship of " and ".

Within the universe there may be smaller universes. An organism can be composed of organisms. And an aggregate of smaller aggregates. But the relationship between an organism and its constituent sub-organisms is not the same as the relation between an aggregate and its constituent sub-groups. The aggregate is not an individual. Individuality implies indivisibility; but an aggregate can be divided. A glass of water is an aggregation of molecules of water in a tumbler; it can be divided into two smaller aggregates of water molecules. Quantities of water are aggregations; they are divisible; they are continuous. But divide a molecule of water, and only atoms of oxygen and hydrogen are left in separation. The molecule of water is not indivisible physically; but when it is divided by electrolysis its character is destroyed; it ceases to be a molecule of water. A molecule of water is an organism, and as such it is indivisible; it is discrete.

Are these individuals in this 'bus really individuals and constituent organisms of a larger individual which is the universe? Or are they themselves merely aggregates, and components of a larger aggregate?

What are the facts in the case? There do not seem to be any that are crucial to a decision. It seems to be entirely a matter of how the facts, whatever they are, are interpreted.

Is the universe continuous or is it composed of discrete entities? If it is through and through continuous and divisible, then there are no real individuals in it, and it itself is not genuinely an individual. It would be a plenum, perhaps of matter or of æther.

If the universe is an individual, it may be the organization of component individual parts. Would all its parts have to be individuals themselves? Could an individual contain an aggregate? Hardly! For the parts of an

aggregate may be unrelated except by " and ", and would not be determinate since they form the aggregate by reason of their indifference to division. Is it implied, then, that aggregates exclude individuals from membership, on the one hand, and cannot be included in individuals, on the other hand ? If it is so, then aggregation and individuality are exclusive properties, and both could not be attributes of the same conception of the universe.

But aggregation implies continuity, and continuity, whether it be a spatial continuum, a temporal continuum, or a material or substantial plenum, must ultimately be composed of units, such as points, instants, or atoms. A point is an individual, is it not ? And so is an instant and an atom. An aggregation, then, is ultimately found to contain individuals. If the universe is merely an aggregate it may still have individuals as some of its parts.

Individuality, then, seems inescapable. But if there is more than one individual, they must either be related or unrelated. The individuals in this 'bus are related; individuals in a universe are related; but if there are two individuals, need they be in the same universe ? Can there be two or more universes ? If there were plural universes, they might be related only by " and " and " and " and " and ". The plurality of universes would thus form an aggregate. But suppose these universes were mutually determinative, interdependent, related more definitely and significantly than by " and ". They would then form an organization, which if divided would cease to retain its character. Such a universe would be a whole, an individual, and if the relation among individuals is more than " and ", there can ultimately only be one such universe.

Society is a universe. This omnibus, in one sense, gives a cross-section through the social universe. Now if that is a whole, my relations to these other individuals are such and such; if it is merely an aggregate,

any moral or social obligations that I might acknowledge would be unfounded, for such relations between us would be adventitious to the nature of an aggregate. Socialism or individualism? Moral duty or self-interest? The choice seems to depend upon how the individual and his universe are conceived. And God? God must be an individual. Is God the universe or an individual other than the universe, or an individual of which the universe is an organic part? Could God exist if the universe were an aggregate, if there were a plurality of universes, if there were only a vast congeries of individuals as in the atomic cosmos of Lucretius?

Anyway, individuality is undeniable. But it is undeniable because otherwise continuity would be unintelligible. Is continuity deniable? That is hard to say. However, the fundamental issue seems to reside here in the matter of individuality and continuity, and in the problem of relations. If one could make these distinctions thoroughly clear and reveal all their implications the assertions one made concerning the nature of the universe, or of any universe, would be more intelligible. Could one tell which assertions about the universe were true? Hardly. They might all be true, or none of them be true; but at least one could attempt to think consistently about the universe one way or another. One could think truly so far.

The omnibus reaches its destination; the subject-matter of the discourse disperses, and the tedium of the journey having been dispelled, reflection ceases for the time being while other matters are attended to.

The dialectic involved in this soliloquy might have gone on, however, probably without end. Carried out it would undoubtedly become extremely difficult, and require exceptional skill and care in the detection of the underlying assumptions, in the full explication of the import of the definitions made, in the thorough deriva-

tion of their consequences, and in the statement of their oppositions and contradictions. It could hardly help becoming abstruse and philosophical, and, perhaps only philosophers need be concerned about such issues in discourse. On the other hand, the significance of a great many terms in ordinary human conversation would be clarified by further prosecution of this dialectical situation. Socialism, individualism, moral obligation, duty, the character of society, the relation of man to his fellow-men, to his universe, to God, the nature of God, materialism, pantheism, atheism, the determination of the individual, human freedom—these are only some of the ideas touched by this discourse, which are common themes in conversation. For the most part when they occur as themes in ordinary conversations or in the idle reflection of an omnibus journey, indefiniteness and complexity inevitably attend the initial consideration of them ; and the conversation or the reverie is usually soon given up as unclear and unsatisfactory, or dismissed because it becomes too abstruse and dialectical. Yet it is only by daring to face the dialectical issues which such discourse presents, and by undertaking the dialectical task thoroughly, that such discourse can be made intellectually profitable. If such themes engage us in conversation either with one another, or with ourselves, we must become philosophers.

(5)

The arguments which philosophers have, conform in general to the pattern of human conversations. They are distinguished merely, if at all, by the greater dialectical expertness which governs them, but this is not an invariable attribute. The dialectic in which philosophers engage is no purer than other human controversies, if purity in dialectic means freedom from emotional impedimenta and determinants, absolute clarity, or the perfect exemplification of a formal pattern in discourse. Pure dialectic could only be the abstract

dialectic of ideas, the perfect dialectic that is inherent in the universe of discourse, if it has being anywhere; but it is never wholly resident in the human enterprise of discussion.

It might be well, however, to observe a conversation developed with the technical expertness that is commonly attributed to the disputes of philosophers.

"You were speaking of Zeus sending justice and reverence to men," says Socrates to Protagoras in a conversation whose theme is whether virtue can be taught, "and several times while you were speaking, justice, and temperance, and holiness, and all these qualities, were described by you as if together they made up virtue. Now I want you to tell me truly whether virtue is one whole, of which justice and temperance and holiness are parts, or whether all these are only names of one and the same thing: that is the doubt which still lingers in my mind.

"There is no difficulty, Socrates, in answering that the qualities of which you are speaking are the parts of virtue which is one.

"And are they parts in the same sense in which mouth and nose and eyes and ears, are the parts of a face; or are they like the parts of gold, which differ from the whole and from one another in only being larger or smaller?

"I should say that they differed, Socrates, in the first way; as the parts of a face are related to the whole face.

"And do men have some one part and some another part of virtue? Or if a man has one part, must he also have all the others?

"By no means, for many a man is brave and not just, or just and not wise.

"Why then, courage and wisdom are also parts of virtue?

"Most undoubtedly, and wisdom is the noblest of the parts.

"And are they all different from one another?

"Yes.

"And each of them has a distinct function like the parts of a face; the eye, for example, is not like the ear, and has not the same functions; and the other parts are none of them like one another, either in their functions or in any other way? Now I want to know whether the parts of virtue do not also differ in themselves and in their functions; as that is clearly what the simile would imply.

"Yes, Socrates, you are right in that.

"Then, no other part of virtue is like knowledge, or like justice, or like courage, or like temperance, or like holiness?

"No.

"Well, then, suppose that you and I inquire into their natures. And first you would agree with me that justice is of the nature of a thing, would you not? That is my opinion, would not that be yours also?

"Yes, that is mine also.

"And suppose that some one were to ask us, saying, O Protagoras and Socrates, what about this thing you just now called justice, is it just or unjust? And I were to answer, just; and you—would you vote for me or against me?

"With you.

"Thereupon I should answer to him who asked me, that justice is of the nature of the just: would not you?

"Yes.

"And suppose that he went on to say: Well now, is there such a thing as holiness, we should answer, Yes, if I am not mistaken.

"Yes.

"And that you acknowledge to be a thing—should we admit that?

"Yes.

"And is this a sort of thing which is of the nature of the holy, or of the nature of the unholy? I should be

angry at his putting such a question, and should say, 'Peace, man; nothing can be holy if holiness is not holy.' What do you say to that? Would you not answer in the same way?

"Certainly.

"And then after this, suppose that he came and asked us, 'What were you saying just now?' Perhaps I may not have heard you rightly, but you seemed to me to be saying that the parts of virtue were not the same as one another.' I should reply, 'You certainly heard that said, but you did not, as you think, hear me say that; for Protagoras gave the answer, and I did but ask the question.' And suppose that he turned to you, and said, 'Is this true, Protagoras, and do you maintain that one part of virtue is unlike another, and is this your position?' how would you answer him?

"I could not help acknowledging the truth of what he said, Socrates.

"Well, then, Protagoras, assuming this, and supposing that he proceeded to say further, 'Then holiness is not of the nature of justice, nor justice of the nature of holiness, but of the nature of unholiness; and holiness is of the nature of the not just, and therefore of the unjust, and the unjust is unholy; how shall we answer him? I should certainly answer him on my own behalf that justice is holy, and that holiness is just; and I would say in like manner on your behalf also, if you would allow me, that justice is either the same with holiness, or very nearly the same; and I would most assuredly say that justice is like holiness and holiness is like justice; and I wish that you would tell whether I may be permitted to give this answer on your behalf and whether you would agree with me?

"I can not simply agree, Socrates, to the proposition that justice is holy, and that holiness is just, for there appears to me to be a difference between them . . . I admit that justice bears a resemblance to holiness, for there is always some point of view in which everything is like

every other thing; white is in a certain way like black, and hard is like soft, and the most extreme opposites have some qualities in common; even the parts of the face which, as we were saying before, are distinct and have different functions, are still in a certain point of view similar, and one of them is like another of them. And you may prove that they are like one another on the same principle that all things are like one another; and yet things which are alike in some particular ought not to be called alike, nor things which are unlike in some particular, however slight, ought not to be called unlike.

"And do you think that justice and holiness have but a small degree of likeness?

"Certainly not, but I do not agree with what I understand to be your view."

Nor would Protagoras ever be able to agree with Socrates until they had thoroughly clarified what they meant by asserting likeness and unlikeness of qualities such as justice and holiness. The discussion turns at this point, however, to the question of opposites, and particularly whether one quality can have one or more opposite, by which device Socrates aims to persuade Protagoras of the likeness of justice and holiness, a thesis of which Protagoras was already more or less convinced. It would have been better to determine the exact nature of Protagoras's conviction than to attempt to increase it by another argument.

The most significant aspect of this short excerpt from a long conversation is the part that alternatives and dilemmas play in the development of the dialectic. At the beginning of this phase of their conversation, Socrates forces Protagoras to decide whether virtue is a single whole of which justice, and temperance and holiness are parts, or whether all of these are only names of one and

the same thing. Protagoras, in the event of this alternative, asserts the unity of virtue, and its possession of justice and holiness as parts. His further admissions in the ensuing argument are consequent upon his having made this initial decision. Had he chosen the other horn of the dilemma, the discourse could not have failed to lead to different consequences ; or had he refused the disjunction, and made a third, new assertion concerning the relation of virtue to such qualities as justice and holiness, the subsequent dialectic would certainly have been different. Alternatives are as critical in the determination of dialectical consequences as are definitions and assumptions, and the Socratic habit of argument reveals a sagacious employment of them, sometimes quite unfairly. The conclusions which any argument reaches must be qualified by the dilemmas met with on the way, for the conclusions have been reached only because this rather than that, and this rather than that, were asserted at the critical junctures of the discussion. Had the opposite assertions been made, or still other assertions not offered by the given alternatives, the conclusions would have been different.

It is not here implied that the conclusions would have been better, or more valid, but simply that the conclusions of an argument must be viewed in the light, not only of assumptions and definitions, but of the alternatives from which they are derived, if their complete dialectical status is to be described, evaluated, and understood. It must be added that in discourse, no alternative has compelling effect over the course of the argument unless it is derived from the opposition between sets of definitions and assumptions. All alternatives, not so derived, are arbitrary, and can be avoided, if that is advisable. The dilemmas which arise, however, because of conflicts in definition or assumption, compel decision, but they in origin, at least, are arbitrary, and can be removed, rather than solved, by alteration of the definitions or assumptions which occasioned them.

(6)

The discourse of men at times approaches the perfection of abstract dialectics. Such discourse is rare and unfamiliar; it is difficult to follow because its language is technical in construction and its vocabulary special. But for that very reason it is a marvel of precision, and when it is comprehended, the understanding possesses an object of beautiful clarity.

There was a time when certain men were dialecticians by profession and for delight. They had either a talent or a training that rendered their discourse superb, exemplifying as nearly as possible the form of dialectic rigorously conceived as the regimen of thought. It was not only regulative of the processes of debate, and constitutive of the intellectual attitudes therein assumed, but it was surrounded, in their practise of it, by habits of formality and decorum in argument that could be stated as the etiquette of reason, the good manners of conversation. In this sense, dialectic may be the art of conversation, as well as the logical structure of it. It can be taught and acquired; it may be, as it has been at times, one of the primary ends that education serves. To be educated is, in these terms, to be capable of dialectic, not only as a philosophical exercise, or as a means for the attainment of knowledge or truth, but as an induction into the ways of reason, and as the capacity for being well-mannered in discourse.

"I came at length to Paris, where above all in those days the art of dialectics was most flourishing, and there did I meet William of Champeaux, my teacher, a man most distinguished in his science both by his renown and his true merit. With him I remained for some time, at first indeed well liked of him; but later I brought him great grief, because I undertook to refute certain of his opinions, not infrequently attacking him in disputation, and now and then in these debates I was adjudged victor."

Thus writes Peter Abelard in his *Historia Calamitatum*. Abelard's fame "in the art of dialectics began to spread

abroad", and after founding a school of his own, he returned to discourse with William, now Archdeacon of Paris, for "I was eager to learn more of rhetoric from his lips; and in the course of our many arguments on various matters, I compelled him by most potent reasoning first to alter his former opinion on the subject of universals, and finally to abandon it altogether. Now, the basis of this old concept of his regarding the reality of universal ideas was that the same quality formed the essence alike of the abstract whole and of the individuals which were its parts; in other words, there could be no essential differences among these individuals, all being alike save for such variety as might grow out of the many accidents of existence. Thereafter, however, he corrected his opinion, no longer maintaining that the same quality was the essence of all things, but that, rather, it manifested itself in them through divers ways. This problem of universals is ever the most vexed one among logicians, to such a degree, indeed, that even Porphyry writing in his *Isagoge* regarding universals dared not attempt a final pronouncement thereon, saying rather: 'This is the deepest of all problems of its kind.' Wherefore it followed that when William had first revised and then finally abandoned altogether his views on this subject, his lecturing sank into such a state of negligent reasoning that it could scarce be called lecturing on the science of dialectics at all. It was as if all his science had been bound up in this one question of the nature of universals."

The many arguments which Abelard had with William, the "potent reasonings" which compelled the latter to altar and abandon certain opinions concerning universals, can be rendered in the imaginative reconstruction of a single debate between them on this most vexed of all themes. The intention of such a rendering[1] is not

[1] In *Mont St Michel and Chartres* (pp. 294–302), Henry Adams attempts such a reconstruction, imaginative rather than historical, of an argument between William of Champeaux, Archdeacon of Paris, and Abelard, a free lance dialectician. Because of its length, it is

historicity; without pretending to scholarly accuracy in the assignment and statement of opinions, the report of this controversy between Abelard and William may be able to suggest the form of such debate, and the technique of dialectic in operation upon an issue which Porphyry had called the "deepest of all problems of its kind". The problem was not only a profound one, but fraught, as well, with the jeopardy of heretical admissions. The narrow path of Catholic orthodoxy lay between the assertion of pantheism, on the one hand, and atheism, on the other; and the discussion of the nature of universals had an unfortunate way of leading subtly and inevitably to either one of these heterodoxical conclusions. It required the dialectical genius of St Thomas to remain orthodox and at the same time resolve, in some measure, the issues with regard to the status of universals. It is clear that Abelard and William had come upon a major theme to dispute, and one which might frustrate the dialectical skill of both of them, and surrender them to the judgment of the Church.

William is lecturing on dialectics. He asserts the reality of universals. They have being as substances, and have a real status independent of the mind. Triangularity is a universal; triangularity is real and substantial, and that or this particular triangle can exist as a triangle only by participating in, and absorbing, as it were, the reality and substance of universal triangularity. The universal is prior in being to the particular whose character derives from such participation in it. There is, however, an order of priority among universals, and an order in created things. God, the creator, is the highest universal, the primary substance, and His creatures descend from Him in an order established by the logical relationships which obtain among the universals, determining their character.

here paraphrased for the most part, and quoted but slightly. The present account diverges from that of Mr Adams in being somewhat more direct and simple in its statement of the case.

Universals are related, as classes are, either by being included in or by being inclusive of. The universals having a greater inclusiveness, have higher intension in the order of being. The universal, moreover, is indivisible ; it passes into the individual, or the particular concrete thing, without division of its nature. Socrates is a man by reason of his participation in the substance of humanity, and that substance, humanity, enters wholly into Plato and Aristotle as well as into Socrates, without partition of itself, " much as the divine substance exists wholly and undivided in each member of the Trinity."

Abelard interrupts, " Is the whole of humanity in Socrates ? "

" Yes," says William, " that was the intention of my statement."

" If it is wholly absorbed by Socrates, then, it cannot be at the same time immanent in Plato or in Aristotle. Therefore, if Plato and Aristotle are human, they must be so by participation in the Socratic nature. This would seem absurd. I agree that the universal, whether it be humanity or triangularity, has some reality ; but I should assert that it has the reality of a concept. Let me ask you this question, ' Has the universal the status of a concept or of a substance ? ' "

" Of a substance."

" Such substances are divisible or indivisible ? "

" Such substances are absolutely indivisible. To deny the existence of such substances, or their energetic force, is to deny the existence of all the individuals created by their energy."

" I do not deny the energy of God, Sir, nor of man's free will, but I do deny the energy of all other substances or universals. You assert that universals are indivisible and that they give form to the species in which they inhere and to the individuals of the species."

" Yes, I so contend."

" You have often used the analogy of an octahedron

crystal, each of whose eight faces is a perfect equilateral triangles, and with regard to which you have insisted that it is the energy of the triangle, of the concept, or as you would prefer it, of the substance of triangularity, which gives the crystal its existential form. But what gives form to the triangle ? "

" The energy of the line."

" And of the line ? "

" The infinite in extension."

" And this ? "

" It ultimately depends upon the energy of God, as the substance of all things so depends."

" But you have said that the substance of a universal is indivisible, and that its energy, therefore, passes wholly and impartially into the individuals it informs. If that is so, then the substance of the Godhead is not only possessed perfectly by each of the three persons of the Trinity, but as well by triangularity and humanity, and finally, the ultimate energy must be resident in and identical with the substance of the face of the octahedron and in the person of Socrates. I shall not ask you by what principle individuals are differentiated ; but I must conclude that if humanity exists wholly and undivided in each of us, divinity, which imparts reality to humanity, triangularity and all other subordinate species, divinity, the *summum genus*, must be wholly in each of us. ' I need not remind you that this is pantheism, and that if God is the only energy, human free will merges in God's free will ; the Church ceases to have a reason for its existence ; man cannot be held responsible for his own acts, either to the Church, or to the State ; and finally, though very unwillingly, I must, in regard for my own safety, bring the subject to the attention of the Archbishop, which, as you know better than I, will lead to your seclusion or worse.' "

Thus Abelard may have compelled William to abandon his doctrine of the reality of universals, by revealing the pantheistic implications of this realism. Abelard's

own comment runs: "A grave heresy is at the end of this doctrine; for, according to it, the divine substance which is recognized as admitting no form, is necessarily identical with every substance in particular, and with all substance in general." But Abelard did not thoroughly perceive all of the dialectical turns that the theme being discussed might take. It devolves upon William, in self-defence and, perhaps, with malice of forethought, to reveal the inevitable consequences of carrying Abelard's counter-assertions into the universe of theological discourse.

"If you accept the substantial reality of universals, you are in equal jeopardy with me, Mr Abelard. But you assert that they are not substances, but only concepts in the mind. I trust that you will be able to avoid dangers of another sort. I warn you that there are many. Am I right in believing you to declare that universals are only concepts?"

"I do so maintain."

"I must then ask another question. Is the concept immanent in man's mind or in God's mind or in matter?"

"I do not know."

"You must answer. The concept must have reality to some degree."

"That is so."

"And, in whatever degree it has reality, if that degree is less than the reality of God, the nature of its reality can be described. Therefore answer."

"The concept, such as that of humanity or of triangularity, the concept which is the existence of the universal, is in man's mind certainly, or else man could not know it. It may be in God's mind as well, but that I shall not answer now."

"You must answer."

"It is in God's mind, for God has perfect knowledge of all substances."

"Is it the same or a different concept of humanity or triangularity, which is in your mind and in God's mind?"

"I do not know."

"Answer this, then. How does man achieve this concept of humanity?"

"The concept of humanity is the sum of all individual men, and it is derived from the knowledge of individuals."

"Is the concept of humanity, so derived, true?"

"Yes."

"Then it is given to human knowledge by God?"

"I should be willing to admit that."

"But is not the concept of humanity in God's mind also true?"

"It must be so."

"Then, since there cannot be two true concepts of humanity, which are different, the substance of humanity, if it is a concept, must be at the same time present in the same fashion in man's mind and in the mind of God. If that is so, you must admit 'that your mind is identical with God's nature as far as that concept is concerned. Your pantheism eventually goes further than mine. As a doctrine of the Real Presence peculiar to yourself, I can commend it to the Archbishop together with your delation of me.'"

Heresy again! What other course was open to Abelard? William seemed as easily able to make pantheism the fatal term to conceptualism, as Abelard had done with William's extreme realism. Abelard might have avoided pantheism, however, by denying the reality of universals entirely, and asserting that they were only names. Triangle is simply the name for a group of individual triangles; humanity is only the name that can be applied to individual men. Only the individuals have existence, reality, or energetic substance. The universals are merely signs.

"A sign of what?" William asks.

"A sign is a sound, a word, a symbol to designate an attribute of an individual which is real and exists only as the attribute of that individual. Beyond that I am ignorant."

"Very well then. Answer this question: Is God known as an individual or as a universal?"

"Certainly not as an individual."

"The alternative is absolute, Sir. Then God must be known as a universal, whether that be a concept or a real substance. But according to your doctrine of names, God, being a universal, exists only as a name, and without further reality, substance, or energy. You become an atheist thereby. Furthermore, 'what concerns you most, the Church, does not exist except as your concept of certain individuals, whom you cannot regard as a unity, and who suppose themselves to believe in a Trinity which exist only as a sound or a symbol. I will not repeat your words outside this cloister, because the consequences to you would certainly be fatal; but it is only too clear that you are a materialist, and as such your fate must be decided by a Church Council, unless you prefer the stake by judgment of a secular court.'"

Extreme realism, as exemplified in the position of William, and nominalism and conceptualism, are doctrines that arise in discourse concerning universals as the result of three different definitions of the nature of universals, and three different premises concerning their ontological status. Contrary assertions are manifest in these doctrines, and when the dialectic of the disputed issues develops the implications of these doctrines, always of course, within the limits of the assumed dogmas of the Church, the conclusions which are finally exposed as having been implicit in the original assertions, amount to contrary assertions about such ultimates as God and the created universe, pantheism on the one hand, and atheism or materialism, on the other, and many variations of each.

The crucial juncture of the argument between William and Abelard was, in each case, not the demonstration of the falsehood of the opponent's assertions, but rather

their heresy. The demonstration that extreme realism ends in pantheism, and nominalism in atheism may, in one sense, be a demonstration of error, when it is remembered that the truth is the orthodox doctrine. But it must also be remembered that the orthodoxy, in terms of which the heretical opinions are equivalent to false ones, is a set of propositions which are unproved, and, in fact, above demonstration. They are truths by revelation or canonical dogmas. In many other respects different, their logical function and service, however, is identical with that of the postulates and definitions of a geometrical system.

William of Champeaux, realizing the difficulties inherent in this intellectual situation, not only abandoned extreme realism, but adopted silence as superior to dialectic, which act probably won him the reward of the bishopric of Châlons. Abelard, on the other hand, remained indomitably dialectical, but without the clarifying insight that might have won for him the centre of orthodoxy in this fundamental controversy over universals, and supreme renown within the Church. But, incapable of silence, and unpossessed of greater talents, or perhaps a better knowledge of Aristotle, his rewards had to be otherwise, and fame for one achievement or another has not been the least among them.

Within the limiting intellectual conditions imposed by authoritative doctrine, the issue in discourse over universals could be resolved by the Thomistic distinction between three states of the universal, *ante re* in God's mind, *in re*, and *post rem* in the mind of man, and this became the orthodox position known as moderate realism, the truth in the sense of being consistent with the implications of credal pronouncement upon all points. The problem of the universal may thus be dialectically resolved within a certain universe of discourse, which may be called the realm of Catholic theology, a universe of discourse within which the truth of conclusions is determined by a set of assumed, or unchallenged, proposi-

tions, and the resolution of dialectical issues can be judged successful or unsuccessful by the same determination. In this sense, Abelard and William both failed dialectically where Aquinas succeeded; but it must not be forgotten that the achievement is limited to the special universe of discourse in which it was made. It must be made differently, if it can be gained at all, in the universe of discourse which is natural science or in the universe of discourse which is transcendental idealism. The problem of universals could be finally resolved only if the dialectical attempt were undertaken in the most inclusive universe of discourse possible; and it is certainly questionable whether such a universe of discourse can ever be determined, and whether within it, ultimate dialectical resolution can ever be achieved.

The important point here raised is very general in its application to dialectic, and its critical force is not confined to the dispute between William and Abelard and its resolution by Thomas. Any process of dialectic within a partial universe of discourse must be qualified by the statement of the assumptions and definitions which create and determine that special universe. The ultimate propositions which generate a special universe of discourse govern the subordinate assumptions and definitions which can be made within it; determine in general the significations of its entire vocabulary; limit the alternatives that can be considered as genuine options; and adjudge the claims of dialectic to resolve the matters at issue.

Very often, as in the case of the argument about love, dialectic is confronted with an issue that arises because the same term is used in two disparate universes of discourse. A certain amount of clarification results from the appreciation of this disparity, but dialectic can only become more fully operative when the two universes which lie asunder, are united by a set of common definitions and assumptions. Translation may then occur between them, and this conflict be resolved,

whereas before it could only be stated. But such dialectical resolution has neither absoluteness nor finality. It must be qualified by the set of propositions which have been assumed as the pre-requisite of dialectical procedure—a single, unified realm of discourse.

Perhaps—and this is here only suggested and not asserted—all conflicts are conflicts not between isolated propositions but between universes of discourse. If this were so, dialectic might then be described as the process of unifying disjunctive and conflicting universes of discourse, and when such unification occurred, the issue would be automatically resolved, the resolution, of course, always being limited and qualified by the terms in which the unification was accomplished.

Qualification and limitation could only be removed from the process of dialectic, were it to occur in an absolute or all-inclusive universe of discourse. There may be such a universe of discourse which it is the ultimate task of dialectic to determine, and toward which every partial process of dialectic strives to carry its problems. But if the service of dialectic is the abolition of difficulties in discourse by the nullification of the disjunction of the universes between which they occur, then it is questionable whether there could be any dialectic of such an ultimate universe of discourse. It would have to be governed, as all its subordinate and included realms are, by some principle which it itself assumed and could not demonstrate, some principle such as the law of identity and contradiction. Perhaps, then, it is the task of dialectic to abrogate this law, by carrying the same process one step further; but in so doing, would it not make all further discourse impossible, and annihilate itself? This is an important and legitimate question which pushes the consideration of human conversation and argument to its furthest limits. It must be confronted, if not answered later. On the other hand, it might not be altogether inappropriate if dialectic, applied to discourse itself, should conclude in silence.

For the present, however, what has been discovered about dialectic in the examination of a few typical instances of human conversation and controversy, deserves summary. This can be done by the statement of a number of simple theses which will suggest some of the themes for the description of dialectic in Part II, Sections 1 and 2.

1. Dialectic is in part a process of definition; and through definition, it achieves clarification of its issue.

2. Dialectic is in part a process of recognizing the opposition of assumptions and definitions; and it seeks to resolve this opposition by formulating a third set of propositions to include the conflicting ones.

3. Resolution can only occur within a single universe of discourse; it is qualified and limited thereby. Resolution occurs when the two disparate universes of discourse, which created the conflict, are unified, thus making translation between the original realms possible.

4. The conflicts with which dialectic is concerned are oppositions in discourse, either between propositions in a given universe of discourse, or between universes of discourse. Dialectic may be said to originate in the fact of opposition.

5. Controversies often end in the agreement of the parties involved. Such agreement is not necessarily equivalent to dialectical resolution, though it may be.

6. Facts, that is, non-discursive elements, are never determinative of dialectic in a logical or intellectual sense; but certain facts, emotions, desires, purposes, economic circumstances, religious affiliations, personal eccentricities and the bounds of personal experience, etc., are often causally responsible for the origin of human controversies, and are often further responsible for the choice between certain alternatives in the course of the argument. They even limit individual comprehension or occasion ineffaceable differences in insight. They may make it impossible, in other

words, for two individuals to talk in the same universe of discourse. Such facts are relevant to dialectic as a human enterprise, and must be included in the description of it; but they must be given a causal rather than a logical status in that description.

7. In the course of its development of any argument, dialectic is faced with certain dilemmas or alternatives. These dilemmas are ultimately determined by the propositions which state the original contradiction or dilemma. The choice of any given subsequent alternative is similarly determinative of still subsequent choices. In this sense, dialectic may be described as a process of dealing with co-implicated dilemmas.

8. There is great variety in actual human conversations. The practice of dialectic, in other words, never perfectly manifests the theoretical formulation of the process. Human conversations may be internal with oneself, or external with other persons; they may start with what appears to be agreement and end in the clarified state of a disagreement; they may start with what appears to be disagreement, and end in what appears to be agreement; such agreement may or may not be equivalent to resolution of the issue. They may arise because two meanings are attached to the same term, or because two terms or vocabularies are being used to express the same set of meanings. They are usually incomplete, stopping short of thorough dialectic in one respect or another; they are never complete in the sense that dialectic has been exhausted.

The instances of human controversy and conversation that have been presented as characteristic examples suggest, furthermore, two theses, the first concerning the ultimate universe of discourse, to be treated in Part II, Section 3; the second concerning the significance of dialectic to be discussed more fully in Part III.

1. Dialectic has its being in discourse. It occurs in partial universes of discourse. But if there is a realm of discourse in general, the nature of dialectic must ultimately be interpreted in terms of this most general universe of discourse. The ultimate significance of dialectic thus may involve a dialectic of discourse itself, in terms of the law of identity and contradiction, or whatever principle it is that governs the most inclusive universe of discourse. This dialectic would be confronted by the conflict of discourse and its opposite, and the resolution thereof may result either in favour of discourse or of silence. Dialectic may go on for ever, serving the same end in the same way; or the dialectician in this last resort may become a Cratylus, resting in the simple but final gesture of wiggling his finger at the show of things, while those who had not the grace of being mute would vent their interest in a flow of speech, though that be only kindred dumbness in disguise.

2. Just as dialectic seems to be implicit in discourse, so dialectical discourse seems to lead inevitably to abstruse considerations commonly called philosophical, theoretical or speculative. In other words, philosophy, or theory in general, whether "philosophic", "scientific", or "theological", may be identical with dialectic. It may be that philosophical problems, or theoretical problems in general, not only originate in dialectical discourse, and not only are capable of explication by dialectic, but that the nature of philosophy is essentially dialectical. Ordinary and familiar human conversations thus discover dialectic and philosophy at the same time.

II

THE DESCRIPTION OF DIALECTIC

CERTAIN general theses concerning the nature of dialectic have been stated. They have been stated more or less dogmatically in the course of an analysis of the traditional methodology and as the result of an examination of a number of instances of controversial thinking. Dogmatism, to whatever degree it may be present, can be removed by a discussion which attempts to detect the grounds for the given theses, as well as their implications. The necessity for introducing the subject-matter clearly before submitting it to analysis made dogmatism somewhat expedient, but it is no longer necessary. The spirit of dialectic is thoroughly undogmatic, and it would be a paradox, indeed, were it not treated in a manner more consonant with its own character.

Dialectic has its being in discourse, but discourse may be taken in three ways: (1) as an affair of human experience; (2) as the locus of definition and analysis; (3) as a realm of being. In terms of these three aspects of discourse, dialectic can be described in three ways, empirically, logically, and metaphysically.

The empirical description involves a psychological account of the phases of human nature that are factors in the production of controversy, and in so far as these factors may be subversive of the clarity and dignity of discourse, a set of rules may be formulated as the dialectical discipline of conversation. It also involves an account of the factors of language in so far as the structure of language affords insight into the actual conditions of dialectic in discourse. This empirical description will be somewhat dogmatic, as all empirical

statements necessarily are; for it will be concerned with the facts of human experience and human language. For this reason, and because only the accidents of dialectic, rather than its essential traits, are thereby described, the empirical account is very much the least important of the three.

The logical description involves an explicit statement of the definitions and postulates which determine the manner in which discourse is dialectic; and a thorough development of the implications of these definitions and postulates. The rhythm of dialectic will be exhibited as the serial order of certain processes of definition, analysis, synthesis, and the resolution of dilemmas, and these stages will be given perfectly abstract exposition. This treatment of dialectic will be itself dialectical in so far as it will be merely the development of a given set of explicitly stated definitions and postulates.

The metaphysical description involves a further elaboration of this dialectic of dialectic, in which the opposition between discourse as a realm of being, and the realm of being which is non-discursive, generates the distinction between possibility and actuality, and defines the most general universe of discourse as a realm in which all contradictory propositions abide as equally possible truths. In this description discourse becomes the realm of possibility, and dialectic becomes the formal logic of all possible propositions.

1. The Empirical Description: *Language*

A definite disclaimer should be made at the outset. An empirical account of dialectic may be thought to include a genetic analysis of the factors causally responsible for its occurrence in human experience. The genesis would probably be in terms of the structure of language and of the individual differences in human nature. But there are many languages, and the science of linguistics is far from being a complete and positive body of knowledge. There would seem to be much variety in human nature, but little unanimity among psychologists with regard to fundamentals in the explanation of it. Therefore such genetic interpretation is highly questionable. There is an even more significant objection to the attempt, however. Such interpretation is not relevant, no matter how interesting it may be. It is not relevant because whether or not the biography of a thing ever accounts for the qualities which the thing has, it can never help to describe those traits or to evaluate them as such. Genesis is irrelevant to description and evaluation; it cannot, therefore, help to say what dialectic is, or what its implications are, however it may succeed in exposing its origins. The origins of a thing may explain how it has come about, but they do not interpret what it is that has eventuated.

The facts of language and of human nature must be approached from another angle. In what sense do they make dialectic possible? If this question can be answered, it may or may not be thereby determined under what conditions dialectic does occur. It is sufficient if it be determined that dialectic is possible in the empirical situation.

Empirically there is no difficulty in making the distinction between words and things, however fraught

with problems the analogous logical distinction between propositions and facts may be. For most purposes of human experience and activity, a thing is recognizably different from a word. Things and words become closely and significantly related, but they are hardly ever confused by the sane mind. A word is a thing in the sense that it is a visible, audible, or tactile entity, but such things are words in so far as they have one function which other things do not, the function of symbolization. Psychologically, words may be classified as substitute stimuli; they function for other objects in calling forth specific responses. Things may function vicariously as well as words, but the significance which words have is in reference to entities other than themselves, to things or to other words. In their capacity for significant reference, words are symbols.

Words are the parts of language, but although most familiar languages are composed of words, that is not universally the case. The language of mathematics, for instance, comprises a set of significant notational entities which are usually called its symbols rather than its words. It is not entirely so composed, however, for in the definition of these symbols some words have to be used. A perfectly autonomous symbolic system is not known.

On the other hand, although languages are for the most part constituted by their notational vocabularies, whether words or otherwise, they include elements which are usually without notation, such as gestures and transient sounds, grunts, sighs, cries, etc., that may never occur with the same precise significance again. Such linguistic elements are, on the one hand, denotative, pointing to things; and, on the other hand, expressive, giving vent to feelings. But only words, and similar standardized notational symbols, are capable of having fixed meanings, connoting other words as well as pointing to things, and expressing ideas as well as feelings. Whatever be the ultimate or ancillary value of gesturing and

random vocalization, it is only the processes of verbalization that form the substance of discourse.

There are many languages, both of the ordinary sort and of the special technical sort, and certain distinctions must be made within and between these groups. The anthropological investigation of primitive languages, and more general philological research, have collected a great deal of information about the variety of human languages, not only with regard to vacabularies but with respect as well to the fundamental grammatical traits of any language. Corroboration of these findings has come from the study of the language habits of young children, where again there is evidence for divergences from the customary grammar of the adult. Concomitant with the research has been a growing tendency to interpret the data logically in terms of the thesis that there are as many fundamentally different logics as there are fundamentally different languages. This thesis must be considered. It seems to imply not only that a perfect translation is impossible between the diverse vocabularies of two languages, but that also, if these languages are structurally different, these discrepancies render the logic which is indigenous to one foreign to the other. In other words, the specific kind of assertion possible in one language is impossible in another.

This may very well be, but its significance is very different according as it is taken to be relevant to logic or to language. Logic consists in the abstract formulation of very general relationships, and it is of little importance to logic that certain languages are less capable than others of dealing through their media with these relationships. If any language, on the other hand, has implicit in its grammatical structure a relationship not previously enumerated in the formulæ of logic, that new relationship in order to be dealt with logically must receive abstract formulation. It becomes part of a logic. It was not invented by the language in question ; it was discovered. Language is here viewed as an instrument of discovery,

and not as a genuinely creative source. It does not create the distinctions and relationships it is able to state, although it may be the peculiar trait of certain languages to be capable of stating more relationships and finer distinctions than is possible through the instrumentality of other languages. Language is thus, at the same time, both the agency whereby men enter discourse and the limitation of their activity therein.

The importance of language for discourse is not that language determines its logic, for "reason is free to change its logic, as language to change its grammar"; but rather that the peculiarities of language form a set of limiting conditions for the realization of logical values in discourse. This can be vividly appreciated if ordinary language be compared with the language of mathematics or any other symbolic system. In the latter, special notational entities are used, and these entities are given, as nearly as possible, a precise, uniform, and conventionalized meaning. The number of entities which are defined is kept at a minimum, thus reducing the number of indefinables that must be employed, and avoiding as far as possible the use of the popular vocabulary in the definitive statements. When any new entity enters the system it is definable and defined in terms of the established notational conventions of the system. As a result great precision is achieved with the maximum reduction of intellectual ambiguity. It is not difficult for such systems of notation to approximate to the perfect statement of logical values they intend; such isolated universes of discourse have few impediments to the logical formulation of the set of relationships that is their subject-matter.

But in the language of ordinary speech, and in the indefinite universe of discourse to which it gives rise, other conditions obtain. The notational entities are words. These words are the names of objects, not necessarily of physical things, nor necessarily of existent objects; they are names in the sense that they have

a reference beyond language, and the word *object* is here used to describe any entity whatsoever which is not an item in discourse. These words also mean other words; words are related to one another by connotation, and it is this set of relationships which an adequate dictionary aims to enumerate exhaustively. The divers manners in which words have meaning is too complex a subject for the present analysis. The distinction which is important for the present discussion is between the denotative meanings of words and their connotative meanings; in the former use they are names, they refer to objects; in the latter use, they are notational entities whose significance is determined by relation to other entities of the same sort.

If language were entirely denotative, discourse would not have the elaborate ramifications that it has, for the elaboration of language, its store of definitions and distinctions, is largely due to the connotative properties of its verbal elements. But if discourse derives its richness and its variety from this phase of language, it also encounters difficulties thereby. It is in the solution of these difficulties that dialectic enters discourse. The difficulties referred to are almost entirely difficulties of definition. The words of ordinary speech, unlike the symbols of mathematics, do not have precise and standardized meanings; they are for the most part, unlike the technical vocabulary of science, not created for purposes of accurate statement; they are rather organic creatures whose long history of semantic variation is evidence of their capacity for ambiguity in any temporal cross-section of linguistic usage. Ordinary language does not form a system; the dictionary is a collection of definitions rather than a systematization of them; and the definition of any term involves an infinite regressus in the use of other terms, for the number of definitions, and therefore, of indefinables, is not deliberately limited. The only check upon this regressus is in denotation; the object pointed to may satisfy

the demand for the explication of the meaning of a word; but if the definition of a word is attempted through connotation, the other words evoked themselves need definition, and the process, theoretically, at least, has no end, although in common practice it ceases when what is considered to be reasonable definiteness has been obtained. A margin of ambiguity, however, thus remains which is absent from the special languages of mathematics and some of the sciences.

This fact, that the words of ordinary speech are not constant but highly variable and indefinite entities with regard to meaning, is first, the insurmountable obstacle in the way of perfect translation from one language into another, and secondly, the source of contradictions, conflicts, ambiguities, misunderstandings, and similar difficulties in the discourse of a single language. The facts never contradict one another; it is the statements about them which are in contradiction, and this contradiction it will be shown later, is largely due to the indefiniteness of the words which compose the statements. This distinction between facts and statements if followed out will reveal that trait of ordinary language which makes dialectic possible, and perhaps, inevitable in human discourse. In other words, it is the nature of human thinking, in so far as it is conditioned by the use of words, that accounts for intellectual disagreement and controversy.

The universe of facts—of entities which are not in discourse, but which discourse may be about—may contain within its order movements of dissension and struggle. Animals fight, and so may atoms; but they oppose one another in what they do, and not in what they mean. A fact differs from another simply by being identical with itself, and this maintenance of identity may involve whatever complications, systems of tension and cohesion, that the absolute nature of facts affords. But the facts assert nothing. They deny nothing. They are for the most part mute creatures

whose power is in their position and movement rather than in their speech. But the human exception to this rule, the fact of man vociferous in his movement among all other facts, creates the order of facts which are statements, the relevance of which is to the universe of discourse. It must be remembered, furthermore, that facts are patient of and indifferent to the statements which frame them in certain ways. They do not demand one statement rather than another, although man has long hidden the impositions of his speech, from himself by supposing that his statements are governed by the facts. That supposition obviously depends upon the further supposition that the facts are such and such, and that would be merely another statement which may or may not be so. Facts in themselves simply are; it is only in man's statements that they are such and such; and it is only man's statements about them which may or may not be so.

The possibility of multiple attribution of the ambiguity and contradiction of statements, may be inherent, but is not immediately obvious in the universe of discourse. Opinions, like all other facts, may differ simply by being themselves; they do not of their own accord challenge one another; nor do their differences necessarily become significant. Water and fire get along together in the same world, having a certain relatedness with one another. The universe of discourse may comprise statements as antagonistic in their intent as water is nihilistic of fire; and yet those statements also may get along together in peace, together only in the sense of a relatedness potentially provocative of consequences, though not actually so. Water must be poured upon fire; and statements must be submitted to question before the universe of discourse becomes alive with confusion. This confusion, in other words, need not occur; statements need not contradict one another; but they do whenever the question is asked, "What does it mean to say that. . . ?"

"What does it mean to say that . . . ?" is probably the distinctively dialectical question; yet it was probably asked long before there were deliberate dialecticians and professional philosophers; it is asked wherever there are men to whom statements bear meaning, and in whose discourse meanings compete for control. This competition is the very life of thought, though it may be the death of the thinker. It arises, as competition always does, through processes of appropriation. As soon as the meaning of a statement is challenged, the interpretative status of that statement becomes clear, and interpretation is a way of possessing, of appropriating facts. That interpretation is characteristic of statements may be seen in the contrast between the facts which say nothing about themselves and statements which say something about facts. To say something is to interpret. But interpretation is arbitrary and ambiguous. Many things can be said of any fact, and any statement has a *quale* of indefinite meaning which makes possible a multiple interpretation of its significance. To insist upon this interpretation rather than that is to guard a possession, to assert intellectual proprietorship over facts and meanings. That interpretations may be challenged, that we can ask what statements do mean, are indicative, not only of this possibility of multiple interpretation, but also of the possibility of conflicting claims among the entities of a universe of discourse. In short, the variety of meanings which characterize statements about facts, are the sources of elementary intellectual disagreement. There could be no phenomenon of intellectual disagreement were there not men to speak of facts, nor would these men ever disagree were they not given to asking what their speech meant.

Thought and language probably become sophisticated together. When a statement is in question, the primitive answer is probably a gesture of pointing, a movement of denotation; the more sophisticated answer goes a step beyond. It defines the meanings involved;

it registers the denotative force of the statement by expressing the connotation of its terms. Definition on the level of connotation, therefore, requires movement within the universe of discourse itself, as contrasted with blunt pointing toward brute facts. Definition, furthermore, is a cumulative process. In each occurrence, it marks out relational patterns in the universe of meanings, and soon accumulates a complexity that forbids detailed analysis. But very generally, however, it can be observed that the definition of meanings necessarily results in classifications. To define a term is to discern a class, whose members are all the terms tolerating the given definition. Definition and classification are thus co-implicated procedures. A class is described qualitatively by the definition of a term; its intension is implied though it may be unoccupied, exhausted, or of indefinite quantity. The existential import of a class, may be anything whatever without affecting the intensive nature assigned it by definition. Finally, definition cannot fail to be exclusive. This is its most critical characteristic. It is this trait of definition which generates dichotomy, and in so doing establishes significant difference as opposed to differences of identity. Significant diversity is funded in the categories of the universe of discourse; it is the residual pattern of past movements of definition; and it is both provocative and regulative of all future discursions among terms. Certain phases of dialectic thus seem not only to originate with the development of language, but also to be subservient to the intellectual conditions imposed by language upon discourse.

Mathematics, on the contrary, employs a special set of terms symbolized by special notation. The meaning of these symbols in any system is given exhaustively by the doctrine of that system. If they do have any significance in everyday usage, that is entirely beyond and irrelevant to their status and import in mathematics. That status and import are entirely structures in this

or that system. The system fully determines the symbolic content of its terms. Dialectic, on the other hand, employs the symbolic notation of human language; though language be nothing more than an instrument for the achievement of discourse, dialectic is affected by the fact that its specific tools are the words of common speech. If some technical terms are created, they are nevertheless introduced into a vulgar context, and whatever precision they may have is lost through this immersion. Language is already a vast congeries of meanings before dialectic makes use of it, though it may be ultimately enriched by this usage. But a final value is never given to its symbols. Dialectical definition does little more than organize or assemble meanings already caught in the common stock of verbal references. It does not ever, as mathematical definition does, create the full value of its terms. Obviously it can only attempt the precise definition of comparatively few items; and to do so it must accept and use the body of more or less defined meanings comprised in the rest of the language.

The fact that the ordinary language which furnishes our common discourse is constituted of a vast network of definitions, implied classifications and distinctions, is one of the empirical conditions of dialectic, important for the description of it as it actually occurs. If dialectic were operative only with the restricted symbols of some special system, the task it faced would be quite different from what is incumbent upon it because it employs the indefinite words of common speech, words that are not undefined, but rather are too variously defined. It may be offered that the genesis of dispute and controversy is this very factor in human language.

A second linguistic factor is the double reference of terms in connotation and denotation. The symbols of mathematics and the specially devised technical terms of the scientific vocabulary, have the range and force of their denotations quite precisely restricted by their

defined intension. Under such conditions denotation and connotation are rarely ambivalent. But in the situation of ordinary language much of the ambiguity that attaches to familiar words arises because of some degree of independence between these two dimensions in which the words have the meaning. Conflict in meanings, furthermore, occurs not only when there is connotative contradiction, but also when the same word is taken to have a connotation which does not agree with its ordinary denotation. This was the crucial difficulty in the case of Mr Lincoln's calling the tail of the mule another leg. In other words, many of the terms of ordinary speech are not abstract notational signs that can be invested with whatever significant value may be arbitrarily assigned to them for the purposes of carrying on discourse. They are rather concrete words, whose biographies have been more largely practical than theoretical and are, therefore, not entirely submissive to purely intellectual uses.[1]

Ordinary speech, perhaps, was primitively a form of gesturing, of pointing, of denoting. The extrinsic reference of its words was its chief biological virtue in the primitive environment. The fact that human vocalizations, whether emotionally gestural or communicative, did point to and mean things in the world in which the speaker moved and struggled, may have given speech its high biological value. It is only with the much later sophistication of language, when the indicative and subjunctive moods found their grammatical place along with the imperative and interrogative, that language began to have a life of its own apart from the world of things to which it also referred. It still possessed this extrinsic reference, but it added the intrinsic verbal reference which words and statements have for one another in developed speech, and thus

[1] Cf. F. G. Crookshank, Supplement II, *The Meaning of Meaning*, for a discussion of the conflict between denotation and connotation in medical diagnosis.

became an agency for moving in the realm of meanings, or the universe of discourse. The dictionary is a collection of such intrinsic references; and the growth of any vocabulary depends upon the increasing spread and foliation of these references. From the earliest, crudest syntax and grammatical structure to the marvellously competent and rich grammatics of Aristotle's *Organon*, the structural development of language is due in large measure to intrinsic elaboration, though some of the main categories have chiefly denotative force. This growth can be traced in any language which achieves any permanence and any stabilization of the meanings to which its word forms refer; it does not seem to be peculiar to one language rather than another.

Language, in other words, is as " incorrigibly aesthetic " as it is inevitably dialectical. It is aesthetic on its denotative side. Its dialectic propensity is merely the further sophistication of speech which the earliest grammar initiated. Just as words have at one and the same time both intrinsic and extrinsic reference, connotative and denotative meaning, so also language may be said to have simultaneously an aesthetic as well as a dialectical character. Aesthetic is here taken to mean sensational; its adjectival force applies to all direct sensory experiences and to the imaginative experience that is derived therefrom. Denotative reference is, in its simplest terms, reference to some *qualia*, some aesthetic object, given either in perception or in imagination. An essence has been defined as " any logical or aesthetic individual ", and this distinction is parallel to the distinction between the intrinsic and extrinsic reference of words. Psychologically, the interpenetration of language habits and perceptual habits, their co-genesis, and their almost invariably conjoined functioning, points to the basis of the intimate welding of reason and sense. The world of things that we are able to perceive and the relations among them we are able to discriminate, depend closely though not

absolutely, upon the size of our vocabulary and the fineness of our linguistic shadings. Reciprocally, our language grows with the perceptual discovery of objects and relations, and with imaginative recombinations of their parts. The total psychological situation and the characteristics of experience are co-determined by sensory and verbal reactions. It is quite natural, then, that language has its aesthetic side, and that the world we are able to envisage is the world we talk about.[1]

This empirical fact is clearly another limiting condition which dialectic suffers because the materials of the sphere of discourse in which it generally moves are for the most part the materials of a language that serves purposes other than those of dialectic. One of the fundamental traits of the dialectic process is that it is thoroughly inconsiderate of the facts, of any entities which are not in discourse; and yet by reason of their ineradicable denotations, the very words which dialectic must employ in discourse are inextricably and incorrigibly connected with the facts. Dialectic is not altered thereby, but it is certainly limited by this condition of all its actual occasions and performances. It does not surrender the self-imposed restraint upon the sphere of its activity, namely, whatever is intrinsic in discourse itself; it does not go beyond discourse, though discourse may go beyond itself so far as its terms have extrinsic, denotative reference to the facts, objects, or things, which they name and point to.

That the entities of discourse should have this extrinsic reference further restrains dialectic. It limits the degree of freedom in the redefinition of common terms without rendering them unintelligible and awry. And it makes the distinction between what is proper to argument and what is not, extremely important. In the light of the inescapable connectedness of words and facts, it is no wonder that controversies and disputes inevitably

[1] Cf. Henry Head, *Aphasia, and Kindred Disorders of Speech*, Cambridge University Press, 1927.

tend to resort to an appeal to the facts as if that could conclude the argument about the meanings involved in discourse. If the argument concerns the denotative references of the terms under discussion, the discussion could be so concluded; but if it is the intrinsic relationships, that the terms bear to other terms in discourse which is being disputed, then evoking the facts is irrelevant to the nature of the argument. Dialectic depends upon this distinction which the character of language makes inevitable, and limits itself to the connotative dimension of discourse. It is further automatically limited by whatever restrictions are imposed upon this dimension of discourse by the extrinsic references of the entities which comprise it. But it never submits to the jurisdiction of the facts if the point at issue is properly dialectical, if it is a question of meanings intrinsic to discourse itself.

A third factor in the nature of language relevant to human participation in dialectic is the metaphorical quality which pervades ordinary speech. The distinction between a metaphorical statement and a literal statement is not easy to make. It is commonly supposed that to call the moon the queen of the night is to make a metaphorical assertion, whereas to call it the satellite of the earth is to be literal; but the grounds for making the distinction in this simple case, for instance, are not particularly clear. The one might have been uttered by a poet, the other by a scientist. That, however, is no guarantee, for the language of science is essentially as metaphorical as the language of poetry, when the characteristics of metaphor are more closely examined. The metaphor in the narrow context of rhetoric is the name for a usage in which things are compared. "Life, like a dome of many coloured glass," may also be our little life that "is rounded by a sleep", and of this life the biologist and the bio-physicist make remarks no less metaphorical, though of a different order of metaphor. The language of science may, for the most part, be abstract, whereas

the language of poetry is more often concrete; but even this distinction does not hold. Nor is it helpful, for a comparison which employs abstract terms is no less a comparison than that which uses concrete imagery. Whether abstract or concrete in its imaginative values, language seems to be thoroughly metaphorical.

Words are symbols in the same sense that items in mathematical notation are. A statement, as a form of words, is like an equation or a formula; the symbolism of it must be interpreted, must be understood. The distinction between literal and metaphorical statements cannot be defended when the symbolism of all language is revealed. "Sugar is sweet" is no more literal than "that man is an ass"; nor is the statement that "God is the perfect philosopher" any more metaphorical than "iron rusts". To call the sun Apollo or to call it an orb of fire, to call man "a guest in his own home" or to call him *homo sapiens*—all these are equally metaphorical attributions. "Language," says Santayana, "the philosophers must needs borrow from the poets, since the poets are the fathers of speech." In discussing the Freudian psychology, he further remarks: "The chief terms employed in psychoanalysis have always been metaphorical: 'unconscious wishes', 'the pleasure principle', 'The Oedipus complex', 'narcissism', 'the censor'; nevertheless interesting and profound vistas may be opened up, in such terms, into the tangle of events in a man's life; and a fresh start may be made with fewer encumbrances and less morbid inhibition. 'The shortcomings of our description,' says Freud, 'would probably disappear if for psychological terms we could substitute physiological or chemical ones. These two only constitute a metaphorical language, but one familiar to use for a much longer time, and perhaps also simpler.' All human discourse is metaphorical in that our perceptions and thoughts are adventitious signs for their objects, as names are, and by no means copies of what is going on materially in the depths of nature."

That all language is metaphorical is a thesis important enough to warrant further corroboration, or at least, explication. Vaihinger called Kant a great metaphorician rather than metaphysician. "Taken literally," says Vaihinger, "our most valuable conceptions are worthless." And Havelock Ellis, carrying this perception further, writes: "Our conceptions, our conventional signs have a fictive function to perform; thinking in its lower grades is comparable to paper money, and in its higher forms, it is a kind of poetry. Imagination is thus a constitutive part of all thinking. We may make distinctions between practical scientific thinking and disinterested aesthetic thinking. Yet all thinking is finally a comparison. Scientific fictions are parallel with aesthetic fictions. The poet is the type of all thinkers; there is no sharp boundary between the region of poetry and the region of science."

The problem of "literal truth" if all language is metaphorical is an interesting one. Scientific statements are usually conceived as being capable of literal truth. "But," says Santayana, "science is a part of human discourse and necessarily poetical like language. If literal truth were necessary (which is not the case in practice in respect to nature) it would be found only, perhaps, in literature—in the reproduction of discourse by discourse." It is in this sense that a dramatic representation of dialectic, the dialogues of Plato, for instance, might be called literally true.

If all statements, except those to be found in the rhetorical form of direct discourse, are metaphorical, what does it mean to take certain statements literally, and further, to assert them to be true? An answer may be found in the same terms in which the manner of understanding metaphors may be described. Is life a dome of many coloured glass? The statement must be understood before it can be asserted or denied. With regard to the question, Is the moon the satellite of the earth? the case is no different. To understand such

statements, they must be interpreted in some context of meanings, in some literary context, whether the kind of literature be classified by librarians as poetry or as science. When interpreted and in some manner understood, the validity of the statement may be questioned. But in the context in terms of which a metaphorical statement is interpreted, it is always true. The situation is analogous to the position of a proposition either in isolation, or in the setting of one system or another. In isolation the proposition has no intrinsic truth, although it may be true in the other sense of being properly related to the facts. In isolation the proposition can be said neither to be true nor false; but in the context of a system of propositions which interpret it, it may be true or false. In the situation in which it is false, it may be held that the proposition has not been properly interpreted; at least, it can be said that any proposition can be placed in a context in which it would be validly implied. In this sense, it is understood and found true through the same set of conditions.

Similarly, metaphorical statements taken in isolation can neither be thoroughly understood nor judged valid or invalid. It is only when they are interpreted by a contextual environment, although this itself be metaphorical, that their meaning becomes clear, and their appropriateness in the given environment determined. Science furnishes a much more adequate context for its metaphors than does poetry, and this may account for the suspicion that the difference between science and poetry is that the former is literal in its statements, whereas the latter is metaphorical. Scientific statements may seem literal because they can be more uniformly and precisely interpreted, and more readily judged true or false; but that is not because they are less metaphorical than other statements, but simply because science is a more orderly system of metaphors than occurs in poetry or in common speech. A "literal" scientific statement in the context of a

sonnet or of daily conversation, if these latter two happen to employ metaphors foreign to the scientific ones, would appear as strangely metaphorical and as unintelligible, as any other kind of statement taken in isolation, or found in a context to which its metaphors were not indigenous.

The fact that language is essentially metaphorical [1] has one further consequence, which is especially significant in the light of the relation of dialectic and language. The conflict of statements is the conflict of their meanings. These meanings are determined by the partial universes of discourse in which the statements occur. Partial universes of discourse are, on the side of their linguistic expression, no more than special metaphorical settings, and the problem in this situation is one of adjusting the interpretative contexts of metaphorical statements, a task of translating one mode of metaphor into another. But the number of contexts in which a statement can occur, and in terms of which its meaning can be determined is, so far as language goes, indefinitely large, perhaps, limitless. In this respect language is an excellent instrument for the movement of dialectic in discourse, for there is a parallelism between discourse as a realm of being and the nature of language, even if discourse be a limitless realm. God may have, and according to Spinoza, has, infinite attributes, each of them infinite; but language is perhaps also capable of rendering each statement in infinite modes of metaphor.

This analogy between the infinite attributes of God and the infinite modes of metaphor in which any statement exists suggests a rule of contradiction in linguistic usage. An attribute can be limited only in kind, that is, only by another attribute of the same kind; but that would be the same attribute; therefore, the attributes of God, according to Spinoza, are each of them infinite in their kind. Perhaps, similarly a state-

[1] *Cf.* Scott Buchanan, *Possibility*, chapter i.

ment can be contradicted only in kind, that is, by another statement of the same kind, another statement belonging to the same metaphorical mode.[1] In other words, opposition or conflict between two statements can be rendered intelligible only if they are defined as belonging to the same mode of metaphor, which is equivalent to the assertion that the two statements must be defined by the same conventions of linguistic usage in order for their contradiction to be understood and treated. The phenomenon of contradiction will receive a more elaborate logical analysis later.[2] In actual controversy, however, the way in which differences of opinion present themselves is certainly not independent of the highly metaphorical character of the language used.

In fact, it seems to be this characteristic of language, along with the indefiniteness of meaning possessed by most of its words, that makes possible, and actually is responsible for, the origin of controversy and argument in human conversations. It is largely through the event of misunderstanding, or contrariness in understanding, that human beings pass in their use of language from communication to controversy, and from indefinite controversy into some universe of discourse, therein to become more or less competently dialectical.

It is human skill in dialectical procedure not dialectic itself, that is ever more or less competent. The empirical description of dialectic must take account of the factors responsible for this variability in the human practice of dialectic as a method. The enumeration of such factors is only relevant empirically; they have nothing

[1] Any poem is an excellent example of modes of metaphor. This is especially so in the case of *The Divine Comedy*. Dante explicitly states that it may be understood in four different modes, the literal, the allegorical, the moral, and the anagogical. *The Divine Comedy* is equally true in any one of these four modes of metaphor since they are strictly isomorphic, and can be translated into one another. Conflicts in meaning can occur within any single interpretation of the poem, but not between the different senses in which it may be understood.

[2] Cf. Part II, Section 2, pp. 187–199.

to do with the logical exhibition of dialectic as a methodology.

Some of these factors have already been touched upon in the discussion of language as a set of limiting conditions of human participation in discourse. There are other factors, such as the degree of intellectual endowment and the emotional characteristics of human nature, which psychological analysis must now present as an additional set of limiting conditions. But before entering upon this analysis, it would be well to summarize the foregoing discussion of language. In so doing, what was previously advanced as an empirical account can now be translated into a set of definitions and assumptions, and a few theorems. In this latter form, there is no tendency to assert the description as true in the empirical sense; and although the elements of this description may be true empirically, it is valuable to distinguish between what it is that is asserted and the manner in which it is asserted to be true.

I. A fact is any entity not in discourse.

II. Language is a set of facts which are symbols.

III. The symbols of language have two dimensions of reference: (1) to other facts; (2) to meanings in discourse.

IV. Language is an instrument for dialectic when its use is confined to the second of its symbolic functions.

1. The specific differences among languages are irrelevant to the nature of logic or dialectic, although quite relevant to their degree of availability as instruments.

2. Dialectic in its use of ordinary (non-technical) language as an instrument is conditioned by the following factors, present in the constitution of such language:

(i) the variability of the discursive meanings of words;

(ii) the funded definitions of the common vocabulary of the language;

(iii) the conflicting claims of the denotative and connotative reference of terms;

(iv) the restraint upon absolute freedom in definition imposed by the denotation of the words of a non-technical language;

(v) the pervasive metaphorical character of language.

3. Dialectic is never determined, though perhaps limited in its use of a language, by the denotative aspect of the words of that language.

4. Controversy never arises among facts, but only in the realm of meanings, in discourse; nor need dialectic, though it use language, ever be about facts or be subject to the jurisdiction of facts.

5. The use of language, whether for purposes of expression, command, query, or communication, involves men in controversy because of (2, i) the connotative ambiguity of words and (2, v) the pervasive metaphorical character of language.

6. If controversy occur for these reasons (5), it never employs language to ask what the facts are, but what the facts mean. Controversy is dialectic, when, with regard to statements in question, it is asked, What does it mean to say that . . .?

7. Since (6) dialectic is concerned with the interpretation of statements, and since interpretation depends upon a context, the intrinsic validity as well as the intelligibility of the interpretation depends upon the context.

8. What may be ambiguities in verbal usage, and multiple modes of metaphor in linguistic statement, become conflicts and contradictions in discourse, and dialectic serves the double function of clarifying the use of words, on the linguistic side, and resolving difficulties in discourse, on the logical side.

THE EMPIRICAL DESCRIPTION (*continued*): HUMAN NATURE

The psychological factors that are circumstantial to human participation in so intellectual an activity as argument may be classified under three rubrics: (1) leisure, (2) intelligence, and (3) temperament. Leisure, though in part determined by an economic situation, is here taken to mean more than economic disengagement; it implies general disengagement from all practical considerations, an attitude of deliberate impracticality. Intelligence, whatever be the ultimate definition of it agreed upon by psychologists, includes a number of psychological functions, such as language ability, ability to deal with relations, ability to deal with abstractions, understanding and interpretation, controlled association and the organization of associations. These abilities are possessed by human beings in greater or less degree. Any deficiency of these qualities is certainly a limiting condition of intellect. Temperament implies, in the first place, another fundamental individual difference, and along with differences in intelligence, partly accounts for the difficulties human beings meet in the business of communicating with and understanding one another. In the second place, the individual's temperament is constituted by a set of wishes, desires, purposes, and sentiments or emotional complexes, that not only determine his comprehension of an intellectual situation but are also the non-rational determinants of what he chooses to rationalize, his prejudices, beliefs, and special pleadings.

(1)

"It is only in a period, fortunate both in its opportunities for *disengagement from the immediate pressure of circumstances*, and in its eager curiosity, that the Age-Spirit can undertake any direct revision of those final abstractions which lie hidden in the more concrete concepts from which the serious thought of the age takes its start." [1] It is not here implied that profound intellectual activity has no practical consequences, but it is asserted that the pursuit, to be effectively undertaken, must be carried on independently of whatever practical issues it may have. The common distinction between pure and applied science can be stated in terms of certain logical distinctions between their subject-matters. There is, however, a significant difference in attitude as well; the theoretical as opposed to the practical attitude. The enterprises of theory must have no urgencies or ends beyond their own intellectual situation. The existence of the theoretical enterprise may depend upon the economic disengagement of a number of individuals; but it further depends upon a certain attitude in those individuals themselves, a temporary disregard for anything except the intellectual consequences of their undertaking.

It cannot be denied that discussion and controversy have served and do serve practical ends in human experience. Were this not so, much of the business of legislative bodies would be superfluous; and most of the conversations in which human beings engage would not occur, since for the most part their origin is in practical difficulties, and their aim is to remove impediments to further action. But it can be denied that the arguments of political gatherings, and the discussions of those who seek thereby a decision with regard to conduct, and all similar instances of conversation and dispute, are purely dialectical. Conversation is dialectical

[1] A. N. Whitehead, *Science and the Modern World*, Macmillan, New York, 1923, p. 49. (Italics not in text.)

only in so far as it refers to the universe of discourse; and in having this reference, it becomes entirely theoretical. Whatever conclusion such conversation or argument may reach, whether it be resolution of the conflict or merely a clarification of the issue, the conclusion is without practical consequence, at least in so far as it is considered dialectically.

This can be understood in terms of the distinction between the realm of facts and the universe of discourse, between the denotative and connotative dimensions of language. Dialectic is confined to the universe of discourse, and is existentially expressed on the connotative level of linguistic usage. Language, however, has this other reference to the facts, and the conclusion of a discussion which has been somewhat dialectical may, therefore, be taken practically. But if it is so taken, that is irrelevant to its dialectical sources, and taking it practically does not in any way determine or alter its dialectical status.

Dialectic is a theoretical enterprise even more strictly than is pure science. Its impracticality is as great as that of a non-Euclidean geometry. Its values are entirely intellectual or theoretical. Pure science, for instance, in its physical or biological branches, is interested in the solution of certain problems, in the establishment of certain hypotheses, in the further verification of certain formulæ. In any particular instance of special research or of scientific thinking, there is a state of affairs in view which would properly conclude the effort; this conclusion would be a truth, temporarily at least—a case of knowledge in the empirical sense. But dialectic, as subsequent analysis will show more thoroughly, has no genuine conclusion. In any instance of dialectical thinking, all that can be achieved at the very most, is the temporary resolution of a contradiction or conflict in discourse. This resolution immediately and automatically generates another issue that is, the conflict between the propositions making the

resolution and their contradictory propositions in discourse. If dialectic occurs in any partial universe of discourse, if it employs any one of the indefinite modes of metaphor of which language is capable, then its conclusions are always subject to the reversals and alterations that are inevitable if they are considered in any of the other partial universes of discourse, or translated into other partial systems of meanings. And since the conclusions of any instance of dialectical thinking are hypothetical, being entirely determined by their doctrinal sources, the postulates, definitions, and dilemmas from which they derive their status, cannot be final, and they cannot escape the modifications of further dialectic.

Dialectical thinking, then, unlike empirical thinking or even geometrical thinking, is genuinely inconclusive, and for this reason requires the theoretical attitude and the mood of leisure to the greatest degree. Dialectic has no intellectual end at all comparable to the solution of a problem, or the completion of a system, since it is concerned really with demonstrating and understanding how no problems can be finally solved, and how no systems can be absolutely completed, in their purely intellectual terms. Human conversations, therefore, are obviously seldom dialectical in the strictest sense of the word. They partake of dialectic in the measure that their manner and their attitudes conform to the abstract pattern and intellectual ideals of dialectic; but this conformity is seldom, perhaps never, perfect—even among philosophers. It is notoriously a human trait to be impatient of theory and to be governed by the urgency of practical situations. Most human beings rarely think; and the thinking of the few who do is usually immersed in the mesh of hurried, practical affairs. Rarely, now and then, conversation or discussion or reflection is undertaken for the delight of the activity itself, and the intellectual benefits intrinsic to it. Under such conditions dialectic is possible, and judged by its standards, only discussion or reflection

so conditioned can be dialectical. The attitude of impracticality is thus seen to be indispensable to dialectic; a discussion which seeks to end in a conclusion which is final, or in a proposition which is decisive for action, is as thoroughly undialectical as an argument about the facts; and for the same reasons. The realm of facts and the world of practical affairs are one; and there are varieties of human thinking oriented towards and subservient to their nature and their needs. The realm of meanings, or the universe of discourse, and the world of theoretical concerns, are similarly united, and there is at least one kind of thinking which is entirely confined thereto. Since it is so restricted, thinking of this sort requires of those who would participate in it, the mood of leisure and utter disengagement from finality or action. Geometrical or empirical thinking may, in one sense or another, rest in the truth; but dialectic must have endless leisure, for it cannot rest.

The contrast is so clear that there can be no confusion between what is here stated as an intellectual ideal and what actually occurs when human beings engage in controversial conversation or in the silent polemic of reflection. Most human discussions stop short because there is no time to go on, or because there are other matters more urgent; they are brief episodes from which one turns to something else, and which one does nothing about. One of the sins of Socrates was his inveterate persistence in conversation. Plato caught this aspect of discussion dramatically in the dialogues; they do not terminate because the argument is concluded but rather because of the intrusion of practical affairs or other matters foreign to the given theme. What little time can be spared for conversation, should be surrendered to it completely, freely, and without the expectation of practical issue or intellectual reward. Infinite leisure would be required for the perfection of dialectic; and that could not be asked even of those who call themselves philosophers. It is enough if the moments

given to the dialectical handling of themes in conversation and reflection be given wholly—as if in a world apart. Such abandonment to the intellectual life, human beings are capable of to some small degree. To the degree to which they are incapable of that psychological state which has been called the attitude of impracticality, or the mood of leisure, human beings are incapable of realizing the values which are inherent in conversation; and they commit the error of trying to force dialectical thinking to serve other than its own ends. Arguing about the facts, or asserting the conclusions of an argument as true, empirically or finally, are the common errors of human conversation. Such faults prevail because human beings are generally unable to take conversation or discussion with leisure and impractically; its dialectical possibilities are thereby lost for them, or they dispute in a manner utterly confused and unsatisfactory because they attempt the method of argument without really understanding, or being capable of, the nature of its pursuit.

(2)

Impatience and incurable pragmatism are not the only psychological difficulties in the way of dialectic as the art of conversation. These are impediments, not to dialectic considered abstractly, but only to its human occasion; in other words, difficulties are what human beings encounter when they try to be dialecticians.

It is difficult to think—a defect for which there is no remedy. The lack of time may be in part responsible but there is also often a lack of wit, or what William James called sagacity. And in so far as the ability to think depends upon these intangible gifts, normative logic is ineffective in its improvement and no prescription of rules can augment its powers greatly. Normative logic deals with thinking as it never occurs. Habits of thought are as idiosyncratic as are human faces, and

he who would regulate all human thinking according to any single form would be like the artist who saw the humanity of a face to the total exclusion of the individuality of it. One man cannot tell another how to think; he can simply tell the other how he thinks himself, and let the model work its own effect. Thinking may be the name for a group of activities, as talking is, and walking is. These activities can be described in general; and, at the same time, if there is sufficient feeling for the idiom and intimate rhythm of the activity in every instance of it, the perception that two cases of thinking are never quite the same will be inevitable. Men do not think alike any more than they walk alike, although it is obvious that, in both ways, they may get somewhere equally well.

The ability to think varies from individual to individual, not only because of personal habit differences, but because it is a gift of nature, and of circumstance as well. It is capriciously distributed. In so far as thinking involves dealing with highly abstract notions, with complex relational systems, with the skilful use of language and the drawing of fine distinctions, in short, in so far as thinking requires the mind to be definitive and discriminative, it may be said to depend upon intelligence. Though intelligence elude precise description, certainly one aspect of it is this abstractive power and relational perception. A high correlation is found between the possession of these powers and the measure of intelligence. Defect of intelligence, then, will limit an individual to certain levels of abstraction and relational complexity; and since the processes of dialectic in even the simplest instance of dispute or reflection are highly intellectual, incompetence in this respect is prohibitive. There is clearly an irreducible high minimum of mentality required for thinking of the dialectical sort.

The art of philosophic conversation, in other words, is not open to all men. Regardless of the facts, it would be romantic even to suppose the contrary in respect

to any excellence. But even among those who are sufficiently endowed with intellect there are obstacles to perfect communication and understanding which seem somewhat related to discrepancies in intelligence. The persistence of misunderstanding is due to "a certain blindness in human beings" that is not entirely a matter of prejudice and bias. Even those who are most eager to be convinced, and are sincere in their desire to be tolerant, raise barriers in the way of understanding by a certain stubborn unintelligence. Perhaps to call it lack of insight would be better. To understand an author's meaning, William James once wrote to a critic, you must have "first grasped his centre of vision by an act of imagination". It is the inability to do this, to perform this exercise of insight and imagination, that renders so much critical thought irrelevant to its subject-matter, and that causes so much controversy to be merely a matter of misunderstanding instead of being a genuine dialectic of opinion.

Whether or not insight be a correlate of intelligence, dialectic must invoke it, for in its absence dispute degenerates into the dogged reiteration of opposed opinions, without any understanding on the part of opponents with regard to the nature of their differences, and consequently without the possibility of clarification or resolution. This familiar species of argument may be said to commit the twin fallacies of multiple assumption and multiple repetition, which would be merely another way for saying that it is carried on without insight, each disputant being dogmatic without granting the similar privilege to his opponent. In such instances the dispute may be terminated by the greater force of dogmatism on one or another side, but it has been totally unsusceptible to the persuasions of dialectic practice to the degree in which insight has been annulled by the dogmatic fallacies.

The phenomenon of translation between discrepant systems or between diverse modes of metaphor has been

referred to as an essential phase of dialectic. It is intellectual imagination or insight which makes translation possible. Disputants must agree either that they are making contrary assertions about the same item or that they are making identical assertions about entities in themselves inconsistent with one another. Until such agreement is reached, the argument is not properly located in any universe of discourse, and all assertions are equally ambiguous and irrelevant. The establishment of such agreement is an act of translation which, on the logical side, defines the universe of discourse common to the disputants, and on the psychological side, consists in a convenance of understandings. One is thereby able to appreciate the divergences in the assumptions being made, and to criticize the propositions advanced for their relative cogency in terms of their own sources. One attempts to understand oneself in the context of one's opponent's ideas, as conversely, one attempts to understand one's opponent in the context of one's own ideas. On the level of language, grasping the centre of the other vision enables one to translate an alien metaphor into the usages private to oneself, and again also to make the translation mutual by attempting it in the other direction. Preliminary understanding is reached when insight accomplishes this translation, and it is only after such translation has been instituted to a greater or less degree that the theme being discussed is susceptible to the more advanced stages of dialectic treatment.

(3)

In individuals otherwise intellectually competent, the fatal insufficiency of insight is never due exclusively to a flaw in their intelligence. On the contrary, both psychology and psychiatry emphasize emotional rather than intellectual defects as the chief causes of aberrancies of understanding and rational adjustment. According

to this point of view thinking is subject to, and perhaps, controlled by the eccentricities of temperament, and it becomes necessary to undertake an analysis of temperament as the third psychological factor conditional to dialectical thinking, among other forms of thought.

The phenomena and the general theories of psychopathology provide an excellent point of departure, for three reasons. In the first place, the concept of "insight" is employed as a criterion for the differentiation of psychoses from neuroses, of cases of "insanity" from cases of maladjustment not so severe. The differentiation is undoubtedly crude, but it is significant for the present discussion that the distinction between a neurotic patient and an "insane" or psychotic one is that the latter lacks all insight into his symptoms and his so-called abnormalities. In the second place, the distinction is clearly made between difficulties due to amentia or feeble-mindedness and the group of diseases that are disorders of the personality, largely emotional or impulsive in character and origin, but independent of intellectual defect. The temperamental factor can thus be considered more or less in isolation. In the third place it is understood that the insane or neurotic patient is never irrational in the sense of being incoherent or without intrinsic cogency. To the contrary, the abnormality of such patients is often their excessive rationality. It is normal to be somewhat irrational. Furthermore, of course, it is not the degree to which they are rational or irrational that renders them clinical material, but the grounds or presuppositions upon which they exercise their rationality. A patient suffering from the grandiose delusion that he is Napoleon is in all ways rational in the development of the implications of the theme of his delusion. Such delusions are often elaborately and marvellously systematized and unassailable by argument or demonstration with intention to contradict them. But they are rationally developed within the limits of one or more unquestioned

and unquestionable assumptions, or prejudices, or complexes, or beliefs—and it is these, rather than the peculiar rationality, which form the pathogenic source of the delusion.

A paranoid patient thus affords an impressive example of certain traits present in the neurotic and the normal, though perhaps less obviously. Herbert Spencer was once confronted by the patient of an asylum who had heard him address a group of convalescent inmates. The man was distraught with manic laughter, and when Spencer finally quieted him and persuaded him to reveal the object of his merriment, the patient intelligently remarked, "To think of me in and you out!" The distinction between the inmate and the outsider is certainly arbitrary in some respects, and especially when logical competence is taken as the criterion of differentiation. The paranoiac suffers the deluded judgment that he is Napoleon, whatever be the complex biographical background of this delusion. This judgment functions logically as the premise of a deductive system, or as the assumption that must be made in argument, and within the limits defined by the acceptance of this judgment as true, the paranoiac is capable of deriving rational consequences which are consistent with it, the whole set of propositions or judgments or beliefs finally achieved forming an orderly and coherent system. He is classified as a case of insanity because he lacks "insight" into his assumptions or deluded beliefs, and society commits him to an asylum because he may be dangerous if he is not simply a deluded dialectician but a deluded pragmatist as well, and acts upon his judgments.

Many of those who are not so committed, however, the merely neurotic and the conventionally normal, are poor dialecticians and dangerous pragmatists in the same sense as the individual suffering a systematized delusion of grandeur, though perhaps to a less degree. Judged by the stricter standards of dialectic, rather than by those of society and psychiatry, lack of insight is as

prevalent outside asylums as in them. By and large human beings are unable to appreciate the assumptions about which they reason, the prejudices and unquestionable beliefs which they rationalize. The process of rationalization is itself not to be deplored. Reasoning and rationalization are identical in process; the difference, if there is any, is that reasoning is self-critical. It acknowledges explicitly that its sources are arbitrary; it admits its irrational origins, whatever propositions or judgments it takes for granted, as true, or, at least, as temporarily not to be demonstrated. Rationalization, on the other hand, both in its pathological and normal manifestations, usually conceals the prejudices and assumptions it attempts to render reasonable; it will not admit that it is based on propositions accepted irrationally and believed arbitrarily; it could not serve its pathological function in the disturbed personality, if it were at all self-critical. Conversely, the individual who was thoroughly self-critical, who possessed insight, would not be pathological, and, having no need for rationalization, would be able to reason instead. Rationalization and reasoning, be it remembered, are identical in every respect except with regard to their sources or their grounds. Insight, or the capacity for self-criticism, is the differentiating trait of reason.

If these essential similarities between the insane, the neurotic, and the normal be granted, it may now be possible to discover the psychological causes for what is called delusions in the one, the neurotic personality in the second, and the incapacity for dialectic in the third. Good intelligence, the ability to reason, and the tendency to be rational are traits present in all three; it is their common defect of insight which protects the pathogenic source of the delusion, converts the neurotic's symptoms into reasons, and makes the normal person dogmatic in discussion rather than dialectical.

The introduction of self-criticism would appear to be the fundamental therapeutic measure in all three

instances. If the distinguishing feature of the psychoses is complete loss of insight, it is questionable whether such therapy can ever be applied to advanced insanity. This therapeutic device has, however, been extraordinarily developed as the technique of psychoanalysis in the treatment of neuroses, and as the method of geometry in the field of reason. The consideration of psychoanalysis and geometry may lead, on the one hand, to an analysis of the temperamental factors in the personality that cloud the insight, and on the other hand, to the formulation of a discipline of dialectic.

Psychoanalysis may be thought of as the technique of becoming highly self-conscious. Its therapeutic ideal may be phrased in the Greek maxim "Know thyself", the geometrical equivalent of which would be the rule to know and to avow explicitly one's assumptions. A geometrical system knows itself in the act of explicitly stating its definitions, postulates, and its rules of procedure. But psychoanalysis as a method is, in one respect, even more pertinent to the dialectical problem than geometry, for it is a technique of self-criticism by means of translation.

In a very general statement of a typical syndrome, the neurotic patient presents the clinical picture of a group of symptoms, such as excessive fatigue, anxieties, curious fears, persistent impulsions or obsessions, and in instances of conversion hysteria, certain organic ailments which are found to have no organic basis whatsoever, and therefore judged to be neurotic or functional. The neuroses, in general, are called functional diseases because their symptoms have not sufficient foundation in organic pathology or tissue lesions. The symptoms, therefore, are taken to express a functional disorder; whether its locus be primarily neurological or psychic is, for the moment, indifferent. It is the precise expressive value of the symptoms in each case which it is the aim of psychoanalysis to interpret.

The theory, or at least *a theory*, of the psychoanalytic

method may be stated very briefly as follows: From circumstances arising in the environment or in the personality itself, the libido, or some part of it, becomes repressed. The desires, wishes, or impulses, and all of the ideas and habits associated therewith, which are thus withheld from normal integration in the personality and free exhaustion of their energies, are not annihilated by repression, but merely impeded. They form a reservoir of latent energies in the personality; ideas, habits, impulses with a unifying emotional tone which constellate as a dissociated, or split-off portion of the personality. This is the repressed complex, and it is the tendency of such repressed energy to exhaust itself in some manner. But the ordinary language habits of the individual are under the control of the major portion of the personality, and are dominated by the censor which was the agent in the original act of repression. The individual is thus prevented from acknowledging to himself consciously or by means of his regular habits of expression, his language habits, the existence of the repressed complex.[1] In its tendency toward exhaustion, the repressed complex of energies must, therefore, choose other means of expression. The neurotic symptoms form a group of such expressive devices, the symbolic content of which the patient himself cannot understand because they are capable of proper interpretation only in terms of their source, and that is a portion of the personality which the patient has thoroughly dissociated from himself and against which he has raised the high barriers of repression. The dream is a familiar neurotic symptom in this sense, having a manifest content that is comprehensible to the major personality, and a latent content which expresses

[1] The emotional repression may have occurred, as in the case of the Œdipus complex, before the acquisition of developed language habits, or before they have become socialized. Disjunction may, therefore, occur between what is verbalized and what is unverbalized in the personality, or between the intelligent and autistic use of expressive devices.

the repressed portion, and is therefore unintelligible to the conscious individual who commands the language habits of ordinary interpretation.

The neurosis thus exists as a disintegrated condition of the personality due to the impossibility of translation between two metaphorical languages which the dissociated parts of the personality employ, the one the ordinary, verbal language of the conscious personality, in whose terms the conscious personality is able to understand and interpret, the other the abnormal, symbolic language of the unconscious self, a language whose terms are the symptoms which the patient cannot translate into his other language properly, and therefore cannot interpret or understand. In this lack of understanding or insight, in this lack of communication between two parts of the total personality, in this lack of translation between two modes of metaphor which the personality has been forced to use, the individual's inability to understand himself, the individual's neurosis, consists. The method of psychoanalysis is to introduce into such a personality the therapeutic device of self-criticism by means of translation ; if the translation is effected, the individual understands himself, is able to function integratively, the symptoms disappear, and the neuroses is cured. Psychoanalysis, in other words, is a dialectic of the neurotic personality, a dialectic of the soul which has been split into two universes of discourse, and which must be reunited by the establishment of translation between them.

The technique of psychoanalysis is, like dialectic, an affair of conversation. The pun that psychoanalysis is conversation *ad libido* is not entirely unworthy ; it is significant. Actually, however, it is at once both slightly more and less than ordinary conversation, more in its emotional surcharge, less to the degree that it is deliberately controlled by the analyst. The emotional aspect is profoundly important. The success of the analysis depends indispensably upon the occurrence of what is called an emotional transference from the

patient to the physician. Once this has been made the conversation that goes on from day to day acquires new force. In the course of this prolonged conversation the patient acquires analytic insight into his own personality, partly in terms of his emotional identification with the analyst, and partly in terms of the new vocabulary, the new language which the analysis places at his disposal. This analytic insight is equivalent to a gradual coalescence of the two universes of discourse between which the patient's personality had been divided. The patient's symptomatic and symbolic language gets interpreted very gradually, and almost imperceptibly, in terms of the concepts and metaphors which form the theoretical substance of psychoanalytical psychology. The two disparate and antagonistic universes of discourse, whose conflict caused the neurosis, are thus united by their both being absorbed into the psychoanalytic universe of discourse, which, including them, effects the translation between them. The personality is supposedly reformed and reunified in proportion as this absorption and translation occurs; and the energies of the repressed complex being reintegrated functionally with the other energies of the organism, they find normal outlets for exhaustion, and the symptoms disappear.

The therapeutic climax is equivalent to the resolution of conflicting systems in terms of a unified whole which is inclusive of them. The resolution in psychoanalysis is to be qualified as it must always be, by the set of assumptions and ideas which define the universe of discourse which resolves the other two, and upon which its doctrine is based. In this case, of course, it is the theory of psychoanalysis which is assumed, a theory whose principles generate a universe of discourse and a metaphorical language capable of effecting mutual translation between the previously disjunctive systems.[1]

[1] It is important to realize that the conceptual system of psychoanalysis is so framed as to be universally applicable to human nature. There is no pathological deviation so unique, no normality so profound, that it cannot be interpreted in psychoanalytical terms.

It is not merely a matter of linguistic facility, however. It is possible for an individual to learn the language of psychoanalysis without being in the least therapeutically benefited thereby. It is the insight which, given its force by the patient's emotional identification with the analyst, gives the assumed propositions of the psychoanalytical doctrine their status as accepted truths. In this status they have both logical and psychological priority over the propositions and ideas of the two conflicting partial systems, which now appear to be sets of complementary half-truths. By translation they complete one another, and by inclusion in the new system, they are integrated and ordered. The analytical insight must really be an emotional experience in which the assumptions of psychoanalysis are given the value of intuitive propositions, immediate truths whose light clarifies and resolves the conflicting shadows of the neurotic difficulty.

This is, of course, the description of an ideal psychoanalytic performance. There are many circumstances to prevent any actual situation from fulfilling the ideal. The most important of these is the resistance which the patient may have or develop toward the analysis itself. The cause of this resistance is identical in kind with the cause of the original repression or conflict, and unless this resistance be removed, the analysis must fail because, in the absence of the complete emotional transference, the new universe of discourse which psychoanalysis intrudes into the conversation lacks the intuitive force which makes it so effective. The patient may acquire the language relevant to this new universe of discourse, but unless he identifies himself with the analyst, he does not employ the new metaphors to understand himself as the analyst understands him, and it becomes a merely linguistic acquirement. The resistance prevents the patient from getting the insight that will make the re-interpretation possible, just as the original conflict, repression and dissociation caused the

loss of insight which made the re-interpretation necessary. In other words, if there is anything to prevent the psychoanalytical doctrine from being assumed as true, it will not serve its purpose to resolve and translate the partial systems it may include.

Psychoanalysis may fail in another way. The patient may acquire the insight which re-associates the disintegrated portions of his personality; the symbolic manifestations of his unconscious self may become intelligible to his major, conscious personality. The patient may have self-knowledge, or understanding of himself, and yet the neurotic traits of his character so far as they appear in his impulses and qualify his actions may not be removed. Understanding may be achieved and yet no practical consequences flow therefrom. That this can occur may be significant of the fact that psychoanalysis is essentially a dialectical procedure, and the dialectical resolution, equivalent to the self-knowledge which concludes the analysis, is entirely an affair in discourse, or psychologically stated, entirely a matter of understanding, and may quite properly be without issue in action.[1] If psychoanalysis does sometimes accomplish an alteration of the patient's conduct as well as a synthesis of partial systems of expression in the patient's personality, the two accomplishments may be concomitant with one another without being causally related. The conversational technique of psychoanalysis may give the patient insight and understanding; the emotional experience of the analysis may alter his conduct.

It should be clear from this brief exposition of psychoanalysis as somewhat analogous to dialectic that the psychological phenomena of understanding cannot be described in purely intellectual or rational terms. Loss of insight accompanies the dissociation of elements

[1] In other words psychoanalysis as a dialectic performance may be thorough; but as a step in therapy it is dependent upon a number of practical circumstances not always under control.

of the personality that is caused by a severe emotional disturbance, the conflict of desires or similar sub-rational forces in the personality. The gaining of new insight is dependent upon the patient's emotional identification with the integrated personality of the analyst, and through that identification the intuitive acceptance of a new system of ideas which yields the insight.

The same psychological description which has been applicable to the rôle of insight in the neuroses may now be applied to the relation of insight and dogmatism in the impersonal conversations, the controversies and disputes, in which so-called normal individuals engage. It is a commonplace observation that misunderstanding is at the basis of controversy, and that if the misunderstanding persists, the controversy cannot be solved. But what causes the misunderstanding in the first place, and what explains the frequent instances in which it persists? When two individuals do not understand one another, they are incapable of mutually translating their opinions. Such separation of spheres of discourse from one another by logic-tight barriers is analogous to the schizoid personality which thereafter must employ two different languages to express itself. Misunderstanding and dissociation may persist as long as the emotional conflict responsible for them persists. It is the removal in some manner of the emotional conflict which occasions the return of insight. This in the case of the neurotic character, reunites the divided selves in the use of a single language, and in the case of argument between individuals, provides them with a common universe of discourse.

It is not necessary in the present discussion to offer a detailed description of the psychological facts here suggested. They can be found in the literature on the subject. The dividing line between the neurotic and the normal person is a doubtful one: the same relation obtains between the emotional and intellectual processes in the normal as in the neurotic. It is illuminated by the

slightly exaggerated condition of the latter. Normal psychology, psychiatry, and psychoanalysis are agreed with respect to the central thesis that irrational forces play a crucial part in conditioning insight, limiting the understanding and determining the uses that shall be made of reason.

Dogmatism in argument or reflection may be thought of, then, as defect of insight and therewith viewed as similar in its psychological origins to the delusions of the insane and the fragmented personalities suffering functional disorders. Dogmatism is an intellectual attitude which is not self-critical; it attempts to rationalize assumptions and prejudices which it does not acknowledge. In argument and controversy the dogmatic attitude must result in the persistence of misunderstanding and disagreement. Dogmatic disputants have limited insight; unappreciative of the doctrinal sources of either of the sets of conflicting opinions, they are unable to conceive and construct the doctrine inclusive of the two in opposition, definitive of a common universe of discourse in which understanding might prevail, translation occur, and some agreement be reached.

The analogy between the neurotic condition and the attitude of dogmatism may be carried one step further. Psychoanalysis has developed therapeutic treatment of the functional diseases; the neurosis is removed or ameliorated by the acquisition of analytical insight as the result of the therapy. Perhaps, similarly, dialectic may be formulated as a set of rules for the elimination of dogmatism from argument. The psychological analysis which revealed the obstacles in the way of the human practice of dialectic may now be used to suggest what is comparable to a normative logic—a discipline of dialectic. Dogmatism may be fundamentally congenial to human nature; it may be rooted in its irrational soil. The attempt to banish dogmatism from dispute is not to deny the fundamental factors which condition

thinking of any sort, and particularly dialectical thinking; it is rather thoroughly to take account of them in order to devise a regimen by which they can be disciplined.

Geometry achieves self-criticism. The rules which govern the construction of geometrical systems require the complete explication of the doctrine assumed for the demonstration of the propositions of the system. Perhaps that is why Plato suggested the study of geometry in the course of becoming a dialectician; and the biographical fact that he himself had been something of a geometer gives weight to the suggestion. The mathematical logician approaches the limit of purely intellectual partisanship. It would be somewhat doctrinaire to attempt an interpretation of emotional preference for Lobechevskian postulates rather than Riemannian. The arbitrary elements of the rational structure of geometry do not seem to have their origin in temperamental bias or emotional vicissitude; they are intellectual even though they are not demonstrable or ratiocinative factors in the system. For this very reason there is no problem of translation among the various systems of geometry. The rational insight which gives any single set of postulates its intuitive status, in a given system, is not limited to that system; it acknowledges whatever propriety is possessed by the postulate sets of other systems. In other words, the insight of a geometer is not confined to any single geometrical system; it is rather an understanding of geometry in general, an insight which defines the geometrical universe of discourse inclusive of all the partial systems. With the use of certain transformation formulæ and rules of isomorphism, translation can be established among any number of geometries.

If the human practice of dialectic, then, is to escape dogmatism, it must like geometry not only acknowledge the particular assumptions that generate a partisan attitude in controversy, but it must be able as well to comprehend that every instance of partisanship is

similarly generated. It must have insight, in other words, into the general nature of the universe of discourse in which intellectual controversy occurs. That insight would not efface the partisanship indispensable to argument; it would simply complement it by an attitude of impartiality. Insight into discourse in general would deny the claim of any partial universe of discourse to finality, and would assert the possibility of the inclusion of any two partial universes in a third universe which might resolve their differences or effect mutual translation between them, though this third universe of discourse itself be partial, and require similar treatment.

But the human practice of dialectic is unfortunately unlike geometry in that it suffers the influence of temperamental factors. The situation of argument and dispute between human beings in conversation and reflection is much more like the situation of the neurotic conflict than like the opposition of diverse geometrical systems. In the latter situation there is certainly a minimum of emotional alloy in the intellectual processes involved; anyone capable of being a geometer at all would necessarily have sufficient insight into geometry to appreciate not only the structure of a single system, but its partiality which makes possible other divergent systems. But in the neuroses there is a conflict of partisan systems without insight into the nature of their partiality, and therefore without the perception of a more inclusive system under which they could be subsumed and through which they could be resolved. More is involved in psychoanalysis, however, than the discovery of a new universe of discourse; the insight which had been lost because of an emotional crisis is regained not merely through conversation, but also, and perhaps primarily, by an alteration of temperament.

The psychoanalyst is able to enumerate the chief emotional resistances that operate against the analytic insight. They are in general of the same order of psychological conditions as the emotional crises and conflicts

that are pathogenic. The failure of therapy is always on the emotional level rather than in the intellectual terms of the treatment. Insight cannot be forced upon a person emotionally unwilling to receive it ; and rational conversation by itself is clearly impotent to work that emotional change. In other words, psychoanalysis may consist in a universe of discourse which is capable of resolving all neurotic conflicts in general, and in a method of treatment designed to effect an emotional transformation in the patient in order to permit the acceptance of a new universe of discourse, and whatever insight it may yield. Failure of the method in any particular case is an accidental circumstance that is not relevant to the theory of the treatment. The fact that psychoanalysis does not always work does not disprove psychoanalysis ; it proves simply that some individuals cannot be psychoanalysed.

Dialectic in its rôle as a discipline to counteract the tendencies to dogmatism that prevail in human conversations is in somewhat the same situation as psychoanalysis. The inclusive universe of discourse which dialectic invokes as capable of resolving controversies and disputes is effective only if the individuals concerned have the dialectic insight. Whatever be the temperamental factors that lead to dogmatism, may be the very factors which would comprise a set of emotional resistances to the acquisition of this insight. Dialectic may suggest a method for removing these resistances by the substitution of a number of other emotional attitudes, dialectical attitudes instead of dogmatic ones. This discipline may succeed or fail in any individual case ; where it fails, it fails because the emotional transformation has not been effected. The temperament of the individual may be incurably dogmatic, and thus be for ever incapable of the insight of dialectic. This in no way impugns the theory of dialectic, or the method and discipline which that theory formulates as a normative procedure ; it must be accounted simply as an inevitable

accident in the realm of fundamental individual differences. With this clearly stated, the few simple rules suggested by empirical acquaintance with the human situation in which men discourse, can now be presented.

(i) *The Exhibition of Emotion.*—If love is inseparably joined to logic, it is better for it to be confessed than for it to be clandestine. It is humanly impossible to dispute and at the same time to be neutral. On the contrary, participation in argument requires an individual to be partisan, and that partisanship is inwardly, and therefore should be outwardly, an affair of one's temperament as well as of one's intellect. Royce once wrote of Hegel that his dialectic was the logic of passion, meaning thereby that it was the logic of conflict. Conversely, conflict is seldom an affair solely of the reason. The more delicate an individual's emotional sensitivity, the more passionate he is, the more keenly will he feel the differences involved in any issue. The vitality of polemic depends, as William James so well appreciated, and so clearly said, upon the vitality of its options, and upon the urgency of the need to exercise the will to believe, or in other words, intellectual partisanship, with regard to them.

It may be difficult, it may be impossible, for human beings to achieve emotional clarification in argument. It may be only after psychoanalysis, and perhaps not even then, that individuals are able to discern and confess what is irrational and wayward in their discourse. But at least a step is taken toward the discipline of argument if the disputants suspect the possibility of emotional motivation and temperamental bias. And if, further than that, there is cultivated the habit of self-analysis, of exhibiting one's love along with the exposition of one's logic, argument becomes purified and dialectic becomes possible. Argument remains confused and dialectic impeded as long as all of the pertinent considerations are not explicated. Therefore,

if the temperament in its submerged and profound preferences and aversions is relevant to controversy, and to the degree that it is, the exposure of these forces improves the dialectic quality of controversy. Once frankly exhibited the emotional factors are deprived of any ambiguous logical function in the argument; they are not reasons and must not be treated as such. They are, rather, like postulates, the source of reasons, and like postulates should be admitted so that the ensuing process is reasoning from known grounds rather than the rationalization of a concealed bias or an implicit premise.

(ii) *Explicit Postulation.*—Argument should be self-critical on the intellectual as well as upon the emotional level. "Plato's great contribution to discussion," John Dewey has recently written, "the one he borrows from geometry and prides himself upon contributing to philosophy, is that all premises are hypotheses, defining problems, and that the value of the conclusion consists in its explication of the meaning of the premises." Plato may have learned much of geometrical ways from Pythagoras; he may have borrowed the method of employing premises as hypotheses; but he fully recognized that he did not have to become altogether a geometer to do so. The principle of making one's assumptions apparent he seized upon as a general principle of good discussion, and with his profound sensitiveness for the qualities of discourse, he realized the importance of this rule.

Any instance of consecutive reasoning, any attempt at demonstration and proof, any controversial pleading involves definitions and assertions which cannot be rationally grounded or demonstrated within the limits of the given instance. These propositions are postulated, are demanded for the purposes of demonstration. As postulates they need not be demonstrated, for they are taken *as if* they were true; they have the status of intuitive propositions.

These intuitive propositions constitute an individual's

insight into his own argument. It is the failure to detect and to express this insight explicitly which prevents the individual disputant from recognizing the grounds of his own thinking and at the same time from perceiving the sources of his opponent's assertions. It is this limitation of insight which causes the misunderstanding or the lack of understanding that creates, and persists throughout so much controversy, and which must be removed if the dialectic process of translation and resolution is to take place at all. The rule of explicit postulation removes this condition; and whatever obstacles there be in human nature to its requirements, whether intellectual inertia or emotional confusion, it is a principle which seems to be obligatory upon argument if it is to avoid futility and insignificance.

The detection of the postulates precedes, in some instances, their explicit statement. There is no determined rule for the detection of postulates; it is a process which expresses an individual's rational insight. It is likely that where postulates are not thoroughly revealed, the unclarity may have a temperamental origin. For this reason, the first and second rules are intimately related to one another. They are both rules for the establishment of insight, but the one attempts the regulation of the emotional, the other the intellectual phases of the process.

(iii) *The Attitude of Impartiality.*[1]—Impartiality is consequent upon enlightened partisanship. If an individual is able to appreciate the irrational context in which his own thinking occurs, and to recognize explicitly the assumptions from which his thinking derives, his partisanship becomes self-critical; if he extends to his opponent the intellectual courtesy of the same privileges he himself has found necessary, his partisanship is qualified by impartiality. The attitude proposed is not one of ignoring relative differences

[1] The meaning of impartiality might be stated in terms of the distinction between *entertaining* and *asserting* a proposition or a dilemma.

in the cogency of reasons, or of the abandonment of rational criticism. It is simply recommended that the presence of arbitrary factors in discourse should be met by impartiality toward the justified derivatives of these factors. In other words, if agreement concludes controversy, the conclusions should be viewed not as final but as entirely relative to the universe of discourse through which the resolution was achieved. This universe of discourse is not without its intuitive propositions, but though the insight which it yields may have welded the partial insights in conflict, it is itself partial. If, on the other hand, the disagreement is clarified rather than resolved, the partial insights persist in conflict because, due to one circumstance or another, no translation and synthesis has supervened. In either case, the conclusion or conclusions are partial in that they are relative to their arbitrary origins, special insights and selected postulates. Toward any conclusion of controversy or argument, therefore, the attitude of impartiality should be maintained.

The suggested inseparability of the partisan spirit and the attitude of impartiality may seem to be a psychological paradox. The obvious difficulty in the suggestion is admitted; the two moods are somewhat incongruous, but they are related as the active and passive phases of the same event. Active participation in argument is necessarily partisan, and it may be possible to adopt the attitude of impartiality toward the network of intellectual oppositions and contradictions only in retrospective consideration, as a qualifying clause to any conclusion. In some individuals who habitually have the dialectic temper it is even possible that during the entire course of controversial thinking, the accents of partisanship and impartiality may constitute its rhythm, as if a Greek chorus were to accompany the entire action of the antagonists by the repetition of the logical injunction that whatever proposition is asserted may or may

not be so according to the acceptance or rejection of the intuitions in which it is founded.[1]

The correlative attitudes of antagonism and detachment are strikingly exemplified in the personalities of two contemporary figures. Their lives, spent for a time in the same community, present the argument between them, even though their writings, for the most part, hardly touch. In the report of one who knew them both it is said that in George Santayana the chief quality is a temper of detachment, while in William James "not detachment, but attachment" prevails. Santayana like Spinoza, attempting to discipline the spirit in the light of reason, must "free it from the irrational contagion of local idolatries and tribal impulses". The philosopher must even transcend the controversy of his fellows in order to discern its meaning. Santayana has proclaimed the principle of his retirement in his own remark that "in the ether are no winds of doctrine".[2] In that serene expanse a mind might dwell unmoved by currents of opinion, and free to witness their dispersal in the atmosphere beneath. The philosopher, to change the ancient gibe, must have his head above the clouds, not in them.

In William James the power of vivid appreciation was great, as in contrast the temperamental gift of

[1] At the conclusion of *Beyond the Pleasure Principle*, Freud expresses the attitude of impartiality in an illuminating confession: "I might be asked whether I am myself convinced of the views here set forward, and if so, how far. My answer would be that I am neither convinced myself, nor am I seeking to arouse conviction in others. More ac urately: I do not know how far I believe in them. It seems to me that the affective feature, 'conviction,' need not come into consideration at all here. One may surely give oneself up to a line of thought, and follow it up as far as it leads, simply out of scientific curiosity, or—if you prefer—as advocatus diaboli, without, however, making a pact with the devil about it . . . I trust little to so-called intuition: what I have seen of it seems to me to be the result of a certain impartiality of intellect—only that people unfortunately are seldom impartial where they are concerned with the ultimate things, the great problems of science and of life. My belief is that there everyone is under the sway of preferences deeply rooted within, into the hands of which he unwittingly plays as he pursues his speculation."

[2] Mr. Santayana's recent essay *Platonism and the Spiritual Life* is an extraordinary comment upon the significance of intellectual impartiality.

Santayana was almost alien aloofness. James engaged his mind in the understanding of every partisan doctrine that presented itself, and almost always managed to grasp "the centre of its vision". That "his mind was larger than any known system" can be fairly said of James, for he was primarily given to illuminating the career of systems in conflict, by imaginative sympathy and warm insight. Philosophy meant to him the presence of real spiritual opposition, and he was for ever insisting upon criteria to distinguish genuine controversy from argument without significance or consequence. His liberality and open-mindedness often resulted in logical ambiguity and shallow reasoning, but the primitive roots of partisanship in any issue never remained opaque to him. The gift of appreciation that James had for his opponents was probably the projection of a rich insight into his own profound partisanship; just as Santayana's sympathetic understanding of other minds is limited to those, who like himself, are exercised in contemplation rather than in controversy.

One way of viewing the contrast between these two men is in terms of a dramatic interpretation. James was really partisan only about his own philosophy; when he achieves a wider range of partisanship, it is a dramatic achievement, the taking of a part. Santayana also assumes a rôle, the attitude of detachment; he is dramatically detached from all points of view except, and this may be unfair, except the philosophy which is his own. That this should be so does not in any way detract from the essential difference of the qualities of detachment and partisanship in the writings and temperaments of these two men. Each of them has caught and emphasized one mood of the dramatic situation of dialectic, James the combative, active spirit of thought's movement, and Santayana, the intellect's composure in the contemplation of human thinking when one is somewhat removed from it. Both of these moods are requisite for dialectic, although they may be temporally separated,

the one motivating argument, the other retrospective. James was carrying on controversy; Santayana is, perhaps, reviewing it. Only a dramatist, such as Plato, may ever properly combine them both.

The exercise of the intellectual imagination is thus seen, in the case of James, to have afforded him insight into diverse doctrines other than his own, and in this ability to be variously partisan James achieved, dramatically at least, intellectual liberality. If the detachment of Santayana, on the other hand, is to be complemented by a sympathetic appreciation of controversy, intellectual imagination must be evoked to construe the partial insights in conflict. It is in the dramatic representation of dialectic, as later discussion will point out, that partisanship and impartiality properly qualify each other, and this dramatic construction of the human situation in which dialectic may occur is essentially a work of the imagination.

(iv) *The Attitude of Impracticality.* — Whatever difficulties confronting dialectic in its actual occurrence have not been considered by the three preceding principles of this normative regimen of controversial thinking, may be regulated by this fourth principle. The rule that argument should be taken with utter impracticality may, in fact, strike at the very source of difficulty. It is conceivable that the resistance in human beings to emotional clarification, explicit postulation, and intellectual liberality arises from the serious manner in which they engage in controversy. If they were ever to take argument as entirely apart from the world of action, the realm of affairs in which practical consequences are important, they might find the free exercise of intellectual imagination within their power. If argument be taken as a purely intellectual affair, the resistance to the exposure of emotional determinants is removed because the temperamental bias is chiefly directed toward beliefs having practical import, and furthermore, because the rule of explicit postulation and the attitude of

impartiality indicate that dialectic is not concerned with genuine beliefs at all. Belief is an incident in the practical life. In the realm of theory, in the universe of discourse, propositions may be asserted to be true, either as postulated or as demonstrated, but they are never entertained as true in any other sense. Only belief in propositions as true because of real or factual determinations would be belief productive of specific action in the realm of facts. In so far as the emotional factors in argument are concentrated in beliefs of a practical rather than a theoretical order, the attitude of impracticality deprives them of their force, and argument becoming a purely intellectual affair, the explicit statement of assumptions and the use of imagination to achieve impartial insight become more easily regulative of its course.

The statement that controversy or dialectic should not be taken seriously were better made in terms of tragedy and comedy.[1] It should not be taken tragically if tragedy is understood to be giving to what is merely possible the status of actuality. The comic spirit, on the other hand, resides in the perception of the reference of ideas to the realm of possibility. The attitude of impracticality in dialectic is the assumption of the comic spirit so defined, what might be called the philosophic sense of humour. The universe of discourse becomes the realm of possibility, and the life of dialectic in this realm must therefore be viewed with the high spirit of comedy. In so far as the universe of discourse may be construed without reference to actuality—whether or not this is absolutely so has not yet been determined—dialectic escapes tragedy; and it is thoroughly inconsonant with its nature to take it seriously in the tragic sense of viewing it in the light of actuality.

[1] Mr Scott Buchanan has developed the metaphysical implications of comedy and tragedy in his treatise on *Possibility*. His definitions are here employed without further reference to their original context.

An illuminating parallel may be drawn between Greek tragedy and the dramatic character of dialectic. The tragic hero following his pride (*hubris*) to the inevitable calamity of the fatal denouement, is like the dialectician following an idea relentlessly to the point of logical disaster—inconclusiveness, discursive relativity. In neither case is there the human moderation, the proper humility. The tragic doom seems to be inherent in the nature of the activity itself. But there is the *deus ex machina* of the Greek tragedy, and there is the new start in the dialectical activity that is born at the very moment of frustration. For no matter how an argument or controversy terminates, the conclusion if understood impartially generates further dialectical activity. If this event is taken impractically, there is no frustration. Only if one expects a practical issue is the intrinsic inconclusiveness of the dialectic process a frustration. For most human beings, therefore, the essential tragedy is not thereby softened. It requires the dialectic temper and the sense of humour proper to it, to be able to laugh at the apparent tragedy of thought. The dialectic drama can be taken as a comedy by the individual whose intellectual impartiality and whose attitude of impracticality enable him to enter into argument as a theoretical affair the significance of which is exclusively in the realm of possibility. The inconclusiveness and inconsequence of argument then become the fulfilment of the dialectic process rather than its frustration.

The unrelieved earnestness with which the practical mind undertakes the task of thinking is itself more tragic than the perception that the play of thought is endless and practically futile.[1] It beholds the spectacle of dialectic and does not smile. Plato smiled; and perhaps Spinoza did, a little sadly. A slightly superior vision

[1] To some minds the perception that thought may be playful suggests that it avoids "reality" and goes on in a world of "make believe". This, however, may be translated into the statement that thought may be dialectical, and occur in the realm of possibilities.

is sufficiently elevated to cause the smile that is a gesture of impartiality and of freedom from the exigencies of practice. The mind that has been properly tempered by these attitudes is able to experience the apparent tragedy by being thoroughly and relentlessly dialectical, and also to stand apart from it, unhurt, untouched, only smiling. In its impartiality before all ideas, in its freedom from what is really special pleading, in its ability to entertain any notion whether or not it be true or credible, such a mind enjoys that dialectical insight which makes controversy and reflection sane pursuits, and has those moments of quiet laughter which makes them what Plato called a " dear delight ".

(4)

The four rules which have been enunciated do not formulate the technique of dialectic. Rather they constitute its etiquette. They are not intended to describe dialectic, but to define the form of intellectual good manners by which human conversation must be governed if it is to become dialectical. The attitudes and devices prescribed do not create dialectic, but make it possible. They may be thought of as the intellectual discipline which dialectic requires of its devotees.

It is not here suggested that any actual argument is governed by this set of regulative principles. No actual processes are ever thus controlled by the normative formulation of their proper procedure. A normative logic does not offer a formula or abstract pattern into which any actual case of thinking fits its variables. Logic is normative if it functions as a check upon error and misconduct in thinking ; its laws of thought are the rules for detecting and correcting flaws and difficulties in any actual sample of reflection ; they do not seek to impose their generalized form upon the variety of modes in which thinking as a psychological event can occur.

Psychological analysis reveals sources of difficulty

and confusion in controversy, impediments to the establishment of the formal pattern of dialectic and to the realization of its methodological aims. As the methodology of controversy, dialectic must therefore formulate a normative discipline with respect to the psychological factors that determine the human situation of controversy, as well as a theory of the logical factors that determine its abstract structure. The rules which comprise this discipline serve, not as a set of directions for controversial procedure, but as a set of remedial measures to which the psychological difficulties likely to arise in the attempt to achieve dialectic form, can be referred. To serve this function such rules must be relevant, on the one hand, to the psychological conditions of dialectic, and, on the other hand, to its abstract nature. In general this double relevance obtains in the four rules stated; and the logical description of dialectic that is to follow will indicate the harmony of the regulative and constitutive aspects of the methodology.

The analysis of human nature may suggest what discipline must be imposed upon it if it is to be capable of good manners in conversation and controversy; but that these conventions are *good* manners can be determined only by reference to an ideal conception of what conversation and controversy should be. This ideal conception will be set forth as the logical description of dialectic. If controversy would be dialectical it must realize the values of this form.

The double reference of a normative discipline to psychological factors and to the abstract considerations of formal logic can be illustrated in the case of the fourth rule enumerated, the attitude of impracticality. On the one hand, it implies that if the procedure of dialectic is irrelevant to factual determination, then dialectic is of no practical utility when utility is conceived as consequential values in the realm of action. On the other hand, it implies that if human nature is strongly

motivated by practical considerations, by the urgencies of practical adjustment, then such tendencies in human nature are incompatible with the pursuit of dialectic. It is important to observe that, in both cases, the implications are asserted, rather than the clauses of the implications. These two implications are united in a third statement which asserts that if human conversation and dispute is to possess a certain form, then the conditions under which this possession can take place are to be determined by the logical character of the form, and by the psychological factors of human discussion. If, then, practicality is such a psychological factor, and factual irrelevance is a logical aspect of dialectic formally, the rule which prescribes the attitude of impracticality states one of the conditions pre-requisite for human controversy to become dialectical. A similar if-then rendering could be given for each of the other rules, revealing their service as liaisons between psychology and logic. It is not an abstract relation between psychology and logic that is thereby indicated, but their specific co-determination of actual conversation in so far as it is carried on by human beings who may seek to impose upon it the form of dialectic. It might be better to say that human beings may seek to develop the dialectic form inherent in their controversial thinking. Dialectic was not discovered in its abstract nature, although a logical description may exhibit it in that way; its traits were discovered by an analysis of traditional methodologies of thinking and by an examination of specimens of human discussion. In other words, the logical aspects of controversy are as natural to it as the psychological factors that may influence it. The significance of these rules may be interpreted in that way: they emphasize the discipline of the psychological factors in order to remove whatever impediment they may present to clear explication of the dialectical traits inherent in conversation, and therein discovered.

An analogy, like a myth, is an excellent device

for unifying an exposition that has made sundry excursions. There is an obvious difference between fighting and fencing; and it is to the analogous difference between dispute and dialectic that appeal is here made. Fighting in its many forms of sheer brute struggle is both more primitive and more universal than the polite encounter with weapons. Fencing is, in a sense, the civilization of fighting. It is different from fighting both with regard to its aim and to its manner. In fencing one does not seek to annihilate one's opponent by any methods which are fair in war, but rather one aims to vanquish one's opponent according to the specific rules which govern the contest. Fighting in general is qualified as good when someone wins; but in the refinement of fighting exemplified by fencing, the quality of goodness resides not in the fact that victim and victor are distinguished, but more properly by the formal execution of feats of skill. And in all forms of combat which are governed by rules, the Olympic game, the chariot race, the knightly joust, the duel, the jiu-jitzu, and dialectic which might be added here as the refinement of unmannered disputation—in all of these, the performance of the contestants usually approaches the limit of its goodness in proportion as the contest is more and more indecisive.

In this analogy, dialectic and fencing arise from the same primitive psychological forces as dispute and fighting, but their difference, as in fact their special excellence, is that their aim has been modified and their occurrence regulated by an etiquette. Furthermore, the factors that make men fight may be difficulties in the way of fencing rather than aids to it. A thoroughly pugnacious and bellicose person is not necessarily an excellent fencer, or a fine combatant, in any contest in which technique prevails as well as power. Bad form in feats of skill is usually the result of too much force. To submit to any kind of ruling requires restraint. Not that fencing could ever go on persuasively without the emotional

ingredients of pugnacious encounter, the wariness, the fear, the anger, the retaliatory thrust. But the contest with foils would become either a brawl or a slaughter if one or another of these emotional forces became unregulated and deprived either contestant of the poise requisite for the foilsman's art. Poise in any performance of this kind is an attitude, assumed deliberately or by habit and acquired according to specifications. Dialectic depends upon the assumption of poise, the cultivation of certain attitudes, just as duelling does, if it is to be differentiated in aim and excellence from ordinary dispute. In this respect it is an art, a set of manners, rendering controversy graceful and competent by imbuing it with a certain balance of temper. Dialectic cannot go on without this balance of temper, any more than, since it is grounded in human nature, it can dispense with temperament itself. That balance can be obtained best when dialectic is conceived dramatically. In conversation represented dramatically, dialectic, become self-conscious, would have the poise requisite for its artistic execution. In such an enactment it would have the quality of balance which the vision of eventual impartiality would infuse even into momentary partisanship. Formal excellence in conversation would occur when it was thoroughly disciplined in the art of dialectic, and just as perfect duelling can best be represented on a stage, so this perfect discipline can be most adequately exhibited, not in actual conversation, but in a dramatic rendering of it.

Such renderings may be artificial in the sense in which the sword-play in Hamlet is, and yet they are essentially dialectic as much as the staging of sword-play is essentially duelling. In the dialogues of Plato, for instance, all the conditions and affects of actual controversy are observed. The variety of opinion, the antagonism of premises and definitions, and the consequences of such opposition—the dialectical process in

all details and elements is created just as it might occur in any cross-section of human intellectual affairs, were they properly disciplined. The drama that Plato creates is not free imagination on his part; it is more largely a report and a criticism of the events reported. The reader is persuaded that here an argument is going on, and certainly in so far as the reader is himself involved in the opposition of opinions, the argument thus dramatized is as genuinely dialectical as the arguments that Plato himself very likely had in the course of his daily life. The dialogues of Plato,[1] in other words, are a sort of distillation of dialectic, a distillation in retrospect, reviewing and reporting events that occurred. This probably accounts for the balance and ultimate indecision which argument has when it is dramatically represented in the form of dialectic. These qualities are not the products of dramatic artifice; balance and inconclusiveness should be observable in any dialectic process when it is viewed with impartiality. It is in this sense that Plato as a dramatist more nearly combines the partisanship and detachment that together compose dialectic than do either James and Santayana alone, when they are considered as "real" men rather than actors in a play of thought.

The play of thought! In so far as thinking is dialectical it is playful in the sense of a game taken in the comic spirit and serving impractical ends. Perhaps all thinking is playful in this sense, but dialectic most certainly is, governed as it is by the attitudes and values which have been attributed to its regimen. It is a game in which all human beings capable of intelligent conversation and certain temperamental refinements may engage, although perhaps its most ideal occurrence is in the soliloquy, the conversation which the individual carries on with himself. The difficulty of finding other

[1] The plays of Shaw are in part also dramatic representations of conversation in the form of dialectic.

minds with whom it is congenial to converse, the idiom of whose thought is sufficiently like one's own, who are equally agreeable to certain rules of intellectual etiquette and capable of the poise required to conform to them, might thus be avoided. On the other hand, there might be too great an emotional homogeneity in a single person, and the generative power of divergent insights and partisan opinions would be lost in soliloquy. A single mind, however, might create a dramatic representation of the dialectic past. This would require the exercise of intellectual imagination; it would entail the vivid resuscitation of the opponents in historical controversy, and the presentation of this opposition without ultimate solution—in other words the maintenance of dialectic impartiality and inconclusiveness. This would be the artifice of dialectic, rather than the art of it, which is the set of rules for carrying on actual argument. It is well to make this distinction, a distinction analogous to that between the theatrical creation of an event, and the event naturally occurring. The illusion of the theatre rests in the formal identity of the event off and on stage. So too with dialectic; whether it is being experienced dramatically or actually, whether one possesses it in solitary reflection, or engages in it conversationally with other minds, it should, nevertheless, be dialectic in essence, in distinctive form.

The four rules that have been enumerated and discussed constitute the discipline by which human conversation becomes capable of dialectic. They may describe something of the manner in which dispute should be carried on, just as rules of fencing or boxing describe something of the nature of the contests they regulate. By such rules fighting may become fencing, and dispute dialectic. But these rules do not describe the formal pattern to which they refer the empirical situation that they seek to regulate. Dialectic must now be considered in its abstract form in order that this empirical reference be

more thoroughly intelligible. Dialectic may be discovered in the human situation, and the empirical factors conditioning its occurrence therein, be analysed; but though some of its traits are indicated by that discovery and that analysis, its essential structure can be exhibited properly only by the logical analysis contained in a formal description of dialectic.

2. The Logical Description

Dialectic can be given a purely logical description in so far as its locus is entirely in the universe of discourse. To make this description self-critical requires certain definitions and assumptions to be rendered explicit.

The universe of discourse is defined as a realm of entities between which a number of specifiable relations obtain. The entities are relations : terms and propositions. The relations are implication, opposition, contradiction, systematic order, and hierachical order.

Dialectic is defined as a series of logical acts. A logical act is an actualization of the relationships that are potential in the universe of discourse. The enumerated relationships are actualized by specific processes or logical acts : opposition by the act of definition, implication by the act of analysis, systematic and hierarchical order in part by analysis and in part by the act of synthesis. There is a problem to be discussed later concerning synthesis ; and another concerning contradiction, in relation to the acts of assertion and denial.

A logical act is stated in a proposition, and may have the status of a definition, a postulate, or a theorem. As propositional entities in discourse, definitions, postulates and theorems are the same. They differ in their logical function as actualizations of the relationships obtaining between other propositions. This may be called their systematic function.

A system is a set of propositions related by implication. The implications are generated by the postulate set, which is the doctrine [1] of the system ; i.e. its definitions and assumptions ; the theorems state the implications thereof.

Implication not only arranges propositions systematically but also hierarchically. A hierarchy is an order

[1] See Appendix A, for definition of "doctrine".

of entities according to levels determined by the analysis of the part-whole relationships obtaining among them. Systems as well as propositions may be placed in hierarchical order.

This preliminary statement may be summarized as follows: Dialectic is in discourse both passively and actively. Dialectic is in discourse passively or potentially in so far as certain relationships obtain among the entities of discourse, and actively in so far as it is a process of actualizing these relationships by definition, analysis, synthesis, systematization and hierarchical ordering. The logical description of dialectic is more immediately concerned with dialectic as a series of acts, and secondarily with the ultimate nature of discourse. If discourse is ultimately dialectical, dialectic can be given a metaphysical description, but that is beyond the concerns of the present discussion.

A logical description of dialectic, employing some of the definitions already enumerated, does not assume the total irrelevance of psychology and language. In fact, it is the precise relationship which these two elements bear to logic that must be postulated carefully.

A verbal statement is assumed to be the expression of a proposition; this assumption implies that there is a genuine difference between the statement as a form of words and the proposition which is thereby stated. The difference is analogous to the difference between symbols and their meanings. A proposition is what the classical tradition called an idea, a significant form; and a verbal statement if it is significant, is significant by reference to ideas.

There are two kinds of *merely* verbal statements; first, statements composed of words which singly or together are meaningless. There may not be any such statements. Every statement may be significant or intelligible to someone. But if there is in any given instance an insignificant form of words, that is what is meant in the first place by a merely verbal statement. Secondly,

statements which define the use of a symbol, a word or any other notational entity, and refer only to the entities of a given language or notational system but not to entities in discourse. They are, therefore, merely verbal, and are to be distinguished from definitive statements which have propositional character.

Dialectic, therefore, in so far as it is a logical affair can never be merely verbal ; on the contrary it is assumed that verbal statements have logical import in so far as they constitute an agency for expressing and otherwise dealing with propositions or ideas.

As the formulation of the relationships obtaining among any set of defined entities, logic like geometry is an abstract theory, and is in no way illuminated by an analysis of the intellectual processes of the logician. Any logical system, in this sense, states its rules of procedure and its doctrine ; the system, in other words, exhibits itself, and the processes by which it does so are entirely logical. There is no psychological act involved except the act of perception, and that is as relevant or irrelevant to the intrinsic nature of a logical system as it is to any other object of perception.

On the other hand, when logic is considered to be the formulation of a series of acts, it is not entirely independent of processes of a psychological sort. A logical act has two references. An instance of analysis, for example, is an actualization in the Aristotelian sense of certain relationships of implication. It does not create the relationships ; it discovers or discerns them. And by this discovery or discernment, it makes actual the given implications which were previously only potential. For a potential implication to become actual means that it is exhibited in a particular situation by a process of analysis. Analysis as an agency of actualization is a logical act. But just as propositions are expressed in linguistic statements, so logical acts are performed by minds, and in so far are psychological processes. No more is implied here than in the statement that thinking

is at once both a psychological and logical concern, and that although it can be described quite separately, first in the one and then in the other set of terms, yet dialectical thinking is actual only when it is at once both a psychological event and an affair of logical character. Thinking is a psychological event if it occurs in a temporal situation and is the activity of an organic entity; it is an affair of logical character if in its occurrence it actualizes relationships implicit in the logical structure of discourse. Thinking is thus an act in two senses, an act in the sense of something done, and an act in the sense of something actualized. Logic may be a description of thinking as a class of acts in the latter sense, but it should not be forgotten that actualization implies activity, and that thinking as an activity is a psychological affair.

Dialectic can be given a purely logical description only in so far as it is an actualization of discourse in a certain way. This would be an account of dialectic as a series of logical acts, and in order to understand the nature of these logical acts or processes it will be necessary first to attempt the brief exposition of a logical theory of discourse, that is, a consideration of the entities in the realm of discourse, and of the relations that may obtain among them. Actualization presupposes a condition of potentiality. If dialectic is taken as a series of logical acts the potential logical structure to be actualized thereby is presupposed. The logical description of dialectic therefore involves both the special theory of a relational structure, and an account of the particular processes related to that structure as *actus* is to *passus*.

By reason of this double reference dialectic differs essentially from mathematical and symbolic logic, on the one hand, and from the ordinary logic of inductive and deductive inference, on the other. The former is the logic of relations; the latter the logic of acts, largely so, if not exclusively so. Mathematical and symbolic logic is interested in the development of systems, in the analysis of their structures, and in the examination of

their demonstrative force and validity. The logic of inference in concerned with the description of certain processes and with the formulation of rules for the correction of errors in procedure. It depends upon "laws of thought" which constitute the doctrine of an abstract system, but as a logic of inference it does not develop the implications of this doctrine apart from the description of the inferential processes which the doctrine justifies. Dialectic, considered logically, is distinguished by the fact that it partakes of the nature of the systematic theory of mathematical and symbolic logic and also resembles ordinary logic in its description of certain processes that are both psychological and logical acts. Unlike mathematical logic, dialectic is not geometrical, i.e. is not interested in systems *per se*, but rather in the relation of systems in conflict. Opposition is the fundamental theme of the logic of dialectic. Furthermore, mathematical logic usually employs special notational entities, whereas dialectic uses the symbols, the words, of common speech as its agency in discourse. In this last respect, it is like the logic of inference, but it differs therefrom as well, by co-ordinating its descriptive phase with the development of an abstract doctrine concerning the logical structure of discourse.

Finally, this preliminary survey is completed by the statement of two further considerations relevant to the logical description of dialectic. In the first place, among the logical acts attributed to dialectic are three, synthesis, assertion and denial, which cannot be derived from the theory of discourse. These three acts are not provided for by any of the relations implicit in discourse. They are not genuinely logical acts, since that implies actualization; they must, therefore, be psychological activities which in this particular system are a-logical. It remains for the discussion to follow to make this point clear, and to indicate the co-ordination of psychological activities and logical acts in the full pattern of the dialectic process. But it is evident now that assertion

and denial are acts which exhibit the relation of contradiction between propositions. To classify them as psychological implies that there is no contradiction in discourse, for if there were, assertion and denial could be classified as logical rather than as psychological acts. The development of this implication is extremely important and will be undertaken as one of the central problems in the metaphysical description of dialectic. In the second place, whatever logical analysis of discourse is advanced in the present exposition is advanced as the development of a doctrine which is explicitly postulated. It gives rise to a number of problems, one of which has already been mentioned, that can be better treated later in the section to be devoted to the metaphysic of discourse as a realm of being, and to the potentialities of dialectic therein.

For the present there are two tasks to be undertaken in conjunction with one another; first, the exposition of a logical nexus related to dialectic as structure is to function, or as *passus* is to *actus*; and secondly, the description of dialectic as an activity, at once both logical and psychological.

(1)

The items of discourse are terms and propositions. A proposition is a relation of terms. The terms are classes, when a class is taken to mean a set of identity conditions determining the correlation of items. Items satisfying the specific set of conditions are included in the class; items not satisfying the conditions are excluded from the class. A proposition which states the relation between classes is really a formula or a propositional function; it states the relation between variables which certain values can fulfill.

Classes are related as part and part, whole and part, part and whole. These relations may be generalized as relations of exclusion, of inclusion; i.e., of implication.

Every item or term in discourse is a class, and may be either a part or a whole according as it is viewed in one context of relations or another. A part is a class which definitively implies other parts, and both excludes them and is excluded from them. A part is included in a whole, but does not imply this whole; the part rather presupposes the whole, which is equivalent to saying that the whole to which this part belongs implies this part. The whole is a class which includes a part and all its others. The whole, moreover, is a class which when defined, implies some class other than itself, which it excludes and by which it is excluded. The whole, therefore, is itself a part, in relation to other parts, and to the whole which includes them, and by which they are implied. Any class is a whole when it is taken as implying and including other classes as its parts; any class is a part when it is taken as implying but excluding other classes as similar parts. Parts are thus fraternally related, and this is a relation of symmetrical reciprocity, of definitively implying and excluding, and of being definitively implied and excluded by, one another. Parts are filially related to a whole, and wholes paternally related to parts, and these relations are asymmetrical in that the part is included in and implied by the whole, whereas the whole includes and implies the parts.

The part-whole relational structure is the same whether conceived in the language of so ancient a thinker as Aristotle, or in the terms of so recent a thinker as Whitehead, whether expressed in terms of classes, propositions, propositional functions or parameters.[1] It is well to remember this because the present tendency is to avoid any comparison with Aristotle, even to deny

[1] For an adequate discussion of parameters in this connexion, the reader is referred to *Possibility*, chap. ii. The parameter, a concept borrowed from mathematics, has three properties: (1) a set of identity conditions; (2) an order of parts or sub-parameters; (3) a field of variability. A class considered connotatively has the first two properties of a parameter; and considered denotatively, a class has the third parametric trait of variable extension.

the structural identity that is obviously present. The same specific functional relatedness obtains identically among Aristotle's species and genera, among Whitehead's essences, or eternal objects of degrees of abstractive complexity, and among the propositions and systems of propositions of mathematical logic. In all cases an ordered hierarchy results, and part-whole relations are regulative of this order, whether the relatives are conceived as classes or as propositions or as entities of any other sort. This hierarchical order is independent of the material nature or abstract character of the items so ordered. The items need only satisfy the conditions of part-whole relatedness. This relation is formally independent of any particular instance of it, such as the relatedness of classes as parts and wholes, which is merely one among other possible types of material part-whole complexes.

In the hierarchical order determined by the relation of parts and wholes, the whole is of a higher order than the parts which it includes, and of a lower order than the whole which in turn includes it. Parts of the same whole are of the same order. Implication obtains only among entities of the same order, that is among parts of the same whole, or between an entity of a higher order and entities of a lower order, that is between a whole and its parts. A part does not imply a whole; it presupposes a whole.

The heirarchical structure of parts and wholes, whether they be classes, propositions or parameters, may be either a finite or an infinite hierarchy. It is finite if there is any whole which has no other, and therefore is not the part of any whole of higher order; or it is finite if there is any part which is of a prime order, that is, contains no parts, and therefore is not in turn a whole. If the hierarchy be viewed as finite, the familiar riddle of the class of all possible classes, which is a member of itself, results, and the discussion becomes involved in the difficulties of the theory of types. That is no reason,

however, for asserting the hierarchy to be infinite. It is infinite only if there is no prime order and no highest order of entities, no whole which is not itself a part, no part which is not itself a whole. That the entities in discourse are related in an infinite hierarchical order, rather than a finite order, follows as a corollary to the postulates of dialectic.[1] This implies that any entity can be defined and analysed; i.e. any entity in discourse is capable of dialectical treatment, or again that discourse is infinitely susceptible to dialectic. The significance of this will be amplified by later discussion.

Terms, propositions, and systems are of different levels in the hierarchical order of whole and parts relationships. A term is part of a proposition, a proposition is part of a system; systems therefore are of a higher order than the propositions they include and propositions are of a higher order than the terms they relate. A term if defined becomes a proposition, which then includes other terms of a lower order as its parts. A proposition if analysed becomes a system, which then includes other propositions as its parts; and these propositions of a lower order if further analysed may themselves become systems containing propositions of still lower order. In other words, there are systems of higher and lower order, just as there are propositions and terms of higher and lower order.

Terms, propositions, and systems, furthermore, are related as wholes and parts, by implications, inclusion, and exclusion. If they are of the same order, terms, propositions, and systems exclude one another and imply one another, for being of the same order means that they are parts of the same whole. Terms, propositions, and systems

[1] The postulates of dialectic are stated below on page 216. The corollary may be proved as follows: If the hierarchy were finite, there would be some class that had no other, being a totality. But that is incompatible with the determinations of the universe of discourse. Therefore, it follows that the hierarchical order of discourse is infinite—a corollary of the postulate that the universe of discourse has infinite determinations.

of a higher order imply and include terms, propositions, and systems respectively, of lower orders. A term, proposition, or system not only includes and implies entities of the next lowest order, but all the entities as well of successive derivative orders. A whole, that is, not only includes its parts, but all the parts of its parts. Finally, terms and propositions of lower order do not imply but presuppose propositions and systems of higher order which include them and by which they are implied. A term, proposition, or system not only presupposes the entities of the next highest order, but all the entities as well of successive derivative orders. A part, that is, not only presupposes a whole, but all the more inclusive wholes to which the whole of next highest order belongs as a part.

These relations obtain potentially among the entities of discourse. Certain logical acts are required to exhibit them, to define terms and reveal their implications, to analyse propositions and reveal their implications, and to order propositions into systems which they presuppose. The logical acts that serve this function in discourse constitute dialectic. Dialectic is operative in discourse in so far as it exhibits the relations that comprise the hierarchical part-whole structure of the entities of discourse. The logical description of dialectic as this series of acts will not only explain what sort of process dialectic is when considered abstractly, but may help as well to clarify the foregoing analysis of the logical structure, implicit in discourse, which dialectic serves to actualize.

In terms of their systematic function, that is in terms of their relation to other propositions or terms, propositions may be classified either as definitions, postulates, or theorems. This classification is important since dialectic never treats propositions in isolation but only in the context of other propositions. It will be important, therefore, before proceeding to make clear what is implied by this classification.

A defininitive proposition indicates the intensive nature of a whole and the set of conditions which limit the membership of subordinate classes in this whole. Such subordinate entities or classes which satisfy the conditions determined by the definition of a given whole are implied as its parts. But definition does more than establish a class as a whole. To define is to delimit or to differentiate; differentiation is the indication of possible otherness. That is, when definition establishes a class as a whole it also determines one or more classes by exclusion of their properties; if this were not so any entity defined would be an infinity class. There is always at least one other class, the formal dichotomous negative, whose identity conditions are excluded by the identity conditions of the class being defined.

The classes which are established and differentiated by the definition of any given whole are co-ordinate. They imply one another mutually by definition, and exclude one another. As co-ordinate classes they are related as parts of some whole of a higher order; they presuppose this supraordinate class, which in turn when defined will imply them as its parts, and will also imply some other class or classes co-ordinate with itself as parts of another whole of higher order.

Definition is thus seen to have three properties. It establishes the intensive nature of a class as a whole implying subordinate classes as its parts. It differentiates the given class from all the other classes which are excluded by its definitive identity conditions; and these other classes may in turn be defined and given positive character as well as merely serving the negative function of delimiting the intension of the first class. When so defined each of these other classes will be established as wholes, implying subordinate classes as parts. This group of co-ordinate and mutually exclusive classes are wholes only in relation to their subordinate member classes; in relation to one another they imply each other as parts which presuppose some supraordinate whole. Parts not

in this definitive co-ordination, that is, as disordinates, do not presuppose the same whole. Yet co-ordinate classes are not absolutely exclusive, for if they were they could not be members of some supraordinate whole, as parts of which they must all satisfy the identity conditions of that whole. The third function of definition, then, is like the first : it establishes a class which will be supraordinate to and inclusive of the group of co-ordinate classes defined and differentiated on a lower hierarchical level, and by that definition and differentiation made to imply one another as co-ordinate parts, and to exclude one another partially by their private identity conditions.

Postulates and theorems are analytic propositions. They do not determine the identity conditions of a class as a whole. They express the relation either of a whole to its subordinate parts, or of co-ordinate parts to one another. Postulates and theorems, in other words, serve to analyse the nature of any given whole, and to determine the order of parts in a whole, that is, the hierarchical levels within any given whole. A class which is defined is a whole related by implication to two other kinds of entities: other co-ordinate classes which it implies as one part implies another part of the same whole; and other subordinate classes which it implies as a whole implies its own parts. The act of definition exhibits the implications of the first sort; these may be called the definitive or co-ordinate implications of a class. The process of analysis exhibits the implications of the second sort; these may be called the analytic or subordinate implications of a class.

Postulates are analytic propositions of a higher order than any of the theorems whose function is the analysis of subordinate implications of the postulates. This is equivalent to saying that the postulates imply the theorems, whereas the theorems presuppose but do not imply the postulates, in any given set of propositions. The postulates are analytic of one or more defined wholes; they do not follow from the definitions, but they are not

independent of the definitions, whose subordinate implications they serve to exhibit. The analysis of these subordinate implications determines the relation of the implied parts to the defined whole, the relation of the parts to one another within the given whole, and the order of parts. Since the theorems exhibit the implications of the derivative parts within the scheme of postulated relationships, the theorems are implied, and demonstrable by, the definitions and postulates, just as the entities of subordinate levels are implied by entities superior in the hierarchical ordering of any given whole.

Postulates, being analytic of wholes which are defined, are always analytical and never definitive. But theorems which state the relationships of the subordinate classes within the hierarchy defined and ordered by the definitions and postulates, are both analytic and definitive. Theorems are definitive if they establish any one of the subordinate classes as a whole having parts of a lower hierarchical order, according to the rule of order determined by the postulates of the system. They exhibit the definitive implications of any such subordinate whole by indicating and differentiating other classes co-ordinate with it, which when they are defined are similarly wholes having subordinate classes. Theorems are analytic when they exhibit the implications obtaining between any one of these subordinate classes and its parts, or the implications by which the parts are related to one another, or the order of parts within any given class. In turn, the parts of any of these subordinate classes may be defined and analysed and ordered by further theorems. Theorems, therefore, are propositions of different hierarchical status, of higher or lower order, just as the entities which they define or analyse may be of higher or lower order, according to their place in the analytic order of the original whole, which was determined by the original set of postulates and definitions. Theorems of a higher order imply and demonstrate

theorems of a lower order, just as the highest order of theorems are implied by and demonstrated by the definitions and postulates. The hierarchical order of any defined and analytic whole, therefore, determines the order of propositions descriptive of that whole, as well as the hierarchical ordering of all the subordinate wholes and parts which are derived from it by analysis.

A set of propositions, some of which are definitions, some of which are postulates, and the remainder of which are theorems, is called a system. The system is an analytic whole,[1] established by the definitive propositions, a whole whose hierarchical order is determined by the postulates. The theorems complete the analytic explication of the systematic order implied by the definitions and postulates which together form what is called the doctrine of the system, or the postulate set. The rules of demonstration merely express the implicative relationships obtaining among the parts of any system. The doctrine of a system is not demonstrated, since within any given system the definitions and postulates are implied by no other propositions. Furthermore, the definitions and postulates must be independent, that is, they must not imply one another. A postulate which is implied by another postulate is demonstrable thereby, and therefore is a theorem in the given system rather than a postulate. The definitions and postulates of any given system must be consistent[2] with one another; if they are not, contradictory theorems may be demonstrable in the system, and the presence of a contradiction in a system indicates that some of its parts are not members of the same whole. All of the theorems of a system must be implied by the doctrine of the system; some of the theorems being demonstrable in terms of the definitions and postulates alone, these being theorems of the highest order; all theorems of lower orders being demonstrable in terms of the doctrine

[1] See Appendix B, for definition of "analytic whole".
[2] See Appendix C, for discussion of the compatibility of postulates.

and of supraordinate theorems. The order of theorems is itself determined by the doctrine of the system.

The propositions of a system are therefore asserted to be true in one of two senses; either intuitively or demonstratively. The postulates and definitions are intuitive propositions; they are accepted as true for the purposes of analysing the whole or system which they establish and define. The theorems are demonstrative propositions; they are accepted as true if they are proved in terms of the postulate set, if they are implied by the doctrine of the system. The analytic implications of the doctrine establish the theorem as its logical consequences. The relation of implication may be stated in general by the formula: if this, then that. The truth of this implies the truth of that; the truth of that presupposes but does not imply the truth of this. The force of a system may be summarized as follows: the doctrine is asserted to be true by assumption and the status of the propositions which comprise it is intuitive; the theorems of the system are asserted to be true by implication, and they have the status of demonstrative propositions. The assertion of the implicates as true is equivalent to the assertion of the doctrine of the system as true, for the truth of the implicates is *implied* by the truth of the doctrine. The truth of this *implication* must be assumed as a rule of procedure in demonstration. Its demonstration within any given set of propositions involves an infinite regress. The rule of implication, therefore, is accepted intuitively; that is, it is a postulate of dialectic.[1]

The discussion up to this point has neglected the essential feature of dialectic which distinguishes it from the ordinary logic of deductive systems. Dialectic is concerned with the development of coherent systems only secondarily; it is primarily concerned with the opposition of entities, whether these be terms, propositions, or systems. Dialectic is the process of dealing

[1] See Appendix E, for discussion of the theory of implication.

with opposition. In this formal exposition of dialectic, we are dealing in an abstract manner with the method of dispute, controversy, argument. In the earlier sections of this book the thesis that dialectic differs from the traditional methodologies was asserted and perhaps exemplified. It has some resemblances to the traits of logistic and mathematical systems, and to the kind of thinking that is commonly described as inductive and deductive inference. These similarities have probably been made sufficiently clear. It is now necessary to make equally clear the distinctive traits of dialectic which justify its status as a divergent methodology, and which, in this abstract formulation of its methodological devices, will indicate its relevance to the characteristics of human discussion and controversial thinking. Dialectic will be so revealed when its abstract form is seen to be the logic of oppositions in discourse. The dialectical process thus becomes a series of logical acts which constitutes the method for dealing with oppositions in discourse.

One further specification must be made. The opposition between entities in discourse, whether terms, propositions, or systems, is itself dialectical in origin. It arises in the act of definition, in so far as definition involves differentiation, negation, and exclusion. There are thus two phases in any instance of dialectic, first, the origin and elaboration of a conflict in discourse, and secondly, the resolution of the conflict and the translation of partial universes of discourse. The subsequent exposition will attempt to show in what manner oppositions in discourse arise, and in what manner they are resolved ; and in the course of this exposition it will be made clear that dialectic always deals with systems rather than isolated propositions and with systems in opposition rather than in isolation ; that the dialectic resolution is never final, but rather always productive of further opposition ; that the act of synthesis which completes the functions of definition and analysis is an imaginative rather than a

strictly logical act; and that insight, resolution, and translation are correlative phases of the same act. This exposition starts with a distinction between opposition and contradiction. The fundamental problem which this distinction raises will be considered later.

(2)

Opposition must not be confused with contradiction. The latter is a case of denial. The former is the assertion of otherness. Opposition is a transition from one to another without denying the one. It is ignoring. "It is like attention which, selecting one and rejecting another, negates without denying the other; there is no contradiction in the process. Indeed, to negate one thing without denying it, *is* to present another. Otherness is the original of negation, while contradiction is negation perverted and sinful." [1]

This distinction between opposition and contradiction is clarified by the realization that the act of definition actualizes opposition without leading to contradiction. Opposition arises through the negation implied in any definition. But that negation is nothing more than the force which definitive implication has in differentiating partially exclusive classes. To define one class, and thereby establish it as a whole, does not in any way contradict all the other classes not so defined; but it does negate them in the sense that it establishes them as other classes which if defined would become wholes in their own right. These *other* classes all have the common property of *not* being the class defined, and of being definitively excluded therefrom though implied by and implying it. It is in this sense that they are the *others* of the class defined, and negated by it, negated but not denied, excluded and ignored, perhaps, but definitively

[1] W. H. Sheldon, "The Dichotomy of Nature," *Journal of Philosophy*, xix, 14 (1922).

implied as other classes of co-ordinate rank rather than contradicted.

Dialectic being in part a process of definition, arising as it does in answer to the question, What does it mean to say that . . . ? is thus engaged in dealing with the opposition of meanings, when these meanings are taken as class connotations. But this does not exhaust the nature of dialectic, for it is what dialectic does about this opposition that creates its peculiar movement in the universe of discourse.

The first stage, then, is the opposition of definitive propositions, when opposition is understood to mean that the propositions in this relation define different entities but not contradictory ones. The opposition may be asserted by the assertion of each of the two propositions thus related; but the assertion of the opposition between two definitions does not deny either of them. No denial is involved whatsoever, except, perhaps, the denial that either entity is the other. This denial is equivalent to the assertion of the opposition, and is its implicate.

The class defined, and the other classes differentiated from and opposed to it, are established as co-ordinate wholes. As wholes they are capable of analysis. The act of analysing a whole is a process of exhibiting the implications which a whole has for its parts, and the implications and order obtaining among the parts themselves. The parts of a whole, although all filially related to it, may not be of the same generation, either being fraternally related as co-ordinate, or found to be related as sub-wholes and parts upon further analysis. Analysis, in other words, by following out the implications of any class which is established by definition as a whole, generates a hierarchical order of part-whole relations within that whole, and this hierarchical order may be called an analytic whole or a deductive system. The material of such a system is a set of classes one of which is supraordinate to all the rest, the remainder

being related co-ordinately, or as sub-wholes and sub-parts. This set of classes is in hierarchical order. As an affair in discourse the system consists in a set of definitive propositions and postulates, and a group of theorems, determined by order of demonstration, and the hierarchical ordering of the materials of the system. The system itself may be considered as a whole, the parts of which are all the propositions that compose it. The system as a whole is established by its doctrine, that is, a set of definitions and postulates, which are the propositions that define and analyse the supraordinate classes of the system, and determine the order of all its derivative elements. In other words, just as a class is defined as a whole by a proposition, and that whole analysed by other propositions, a system is established by its doctrine, and becomes an analytic whole through the exhibition of its deductive implications by the set of propositions which comprise its theorems.

The second stage of dialectic is thus the process of analysis, a series of logical acts by which the whole established by definition is transformed into an analytic whole, or a system of propositions. Dialectic may start with an isolated proposition, but as it passes from its definitive to its analytic phase, a set or system of propositions is thereby generated, and all further dialectic procedure is occupied with any proposition only in its systematic context and not in isolation. This is true of the set of propositions that form the doctrine of the system as well as of its theorems. The definitions and postulates are treated systematically in so far as they are understood in terms of their implications; the theorems, in a sense, explain them or at least exhibit their significance. The theorems, on the other hand, are treated systematically in so far as they are understood in terms of the doctrine which they presuppose; the definitions and postulates demonstrate them, and determine their significance. Any isolated proposition may be understood in one of two

ways, either in terms of its implications or its presuppositions, that is, either as the doctrinal source of a system of propositions, or as a proposition which is implied by some doctrine, and interpreted in terms of a whole system of propositions.

There is a fundamental difference between these two manners of treating isolated propositions. In the first instance, in which a proposition is understood in terms of its systematic consequences, the process is one of analysis, of deriving the definitive and analytic implications of the doctrine which the original proposition contained. Analysis is here a logical act in the sense that its function is to exhibit or actualize relations of implication obtaining among the entities considered. But in the second instance in which a proposition is understood in terms of the system to which it belongs as a part, the process is one which, for want of a more accurate name, might be called synthesis. It is a process of finding the system capable of demonstrating the proposition, the doctrine and the theorems which the given isolated proposition presupposes, and by which it is implied. But this act of finding, this act of synthesis, is not a logical act in the strict sense, for it is only after the system of propositions of which the original proposition is a member has been found that relationships of implication can be exhibited or actualized. Following implications and employing presuppositions are in this important respect utterly dissimilar. The act of synthesis requires the exercise of intellectual imagination, an act of insight rather than an act of logical analysis. The difference between analysis and synthesis is the familiar difference between detecting the postulates of a system, and deducing the theorems of a system from the postulates; there is no rule for the former process; the latter is guided by the rules of implication and demonstration. Of course, once the postulates have been detected, once the whole to which a part belongs has been found, then a return process of analysis may complete

the part's presupposition of that whole by exhibiting the whole's implication for the part.

Synthesis constitutes the third stage of dialectic, the stage in which the resolution of opposition is effected; but since dialectic never treats isolated propositions, the opposition which is resolved by synthesis must be the opposition of systems of propositions. It will be necessary to examine what is involved in the opposition of systems before proceeding to an exposition of the process of synthesis and the event of resolution.

A system is an analytic whole. It is defined by its doctrine; a set of definitions and postulates. The definition of a system, like the definition of any class, not only establishes that class as a whole capable of analysis, but also differentiates that class from other classes which are excluded from it by its intension or set of identity conditions. (A system, in this sense, is like a parameter; it is a parameter each of whose propositions are sub-parameters of various degrees of subordinate rank.[1]) These other classes which the class defined negates and excludes, are its others or its opposites. They are co-ordinate with it, since they are neither its members nor do they stand in the supraordinate relation to it of whole to part. These co-ordinate classes imply one another definitively; and each of these co-ordinate classes when defined on its account is established as a whole capable of further analysis and systematic elaboration. In other words, the definition of a system implies a co-ordinate system or systems, a group of analytic wholes of the same hierarchical order. These systems are said to be in opposition, not in contradiction; they are simply different systems, excluding one another, and the parts of one another, and all the parts of the parts of one another. The opposition of any two propositions, therefore, is equivalent to the opposition of systems, for any proposition, whether it is a theorem, a postulate or a definition, is a part of a system as a whole. The

[1] V. *Possibility*, loc. cit., chap. ii.

opposition of propositions involves the opposition of the systems to which they belong in so far as the propositions are treated definitively and analytically. The opposition of the two propositions may be resolved by finding by the act of synthesis the single system to which they do belong. Thus it is seen that definition and analysis creates and develops the systematic opposition of propositions; and synthesis effects a systematic resolution of that opposition.

In brief summary, then, definition and analysis develop propositions systematically. Systematic wholes, like other whole classes in discourse, not only imply their parts analytically, but imply their others or opposites definitively. The definition of a system thus exhibits its relationships of opposition to other system(s), as well as its intrinsic properties. The opposed systems are reciprocally in opposition and exclusive of one another; they are similarly analytic wholes, having propositions as their parts, organized and ordered by relationships of implication. These parts of analytic wholes are in opposition in so far as the systems to which they belong are in opposition. Conversely, the opposition of two propositions involves the opposition of the systems which they presuppose. To understand the opposition of propositions, therefore, requires the systematic rendering of the propositions, the application to the opposition of the dialectical processes of definition and analysis. These first two stages of dialectic elaborate the opposition of propositions into the opposition of systems, and when these systems are treated as wholes in themselves, the opposition between them is clarified to the degree (1) that each system has been defined by its doctrine, and (2) that its theorems have been demonstrated and developed. By definition and analysis dialectic achieves the clarification of an opposition, or, in other words, the systematic consequences of an opposition are set forth. It still remains for dialectic to achieve the resolution of the conflict thus made clear.

Any one of a group of co-ordinate classes may be established as a whole in so far as it is defined and analysed. Thereby its parts are exhibited and ordered. Some whole, some supraordinate class, if found, would upon definition and analysis be found to imply two or more of these parts. More than a single supraordinate class may be presupposed by a group of co-ordinate entities; but only one proximate supraordinate class is presupposed by two or more entities co-ordinate with one another, and definitively implying one another, since in their relations of implication and exclusion, such entities are parts presupposing a whole.

Definition, in establishing a class as a whole, which then implies its opposite, also establishes the same class as a part, which only in association with the set of one or more implied opposites or excluded others presupposes some whole or supraordinate class by which they are included. Each of these classes includes its parts, which are in turn arranged either co-ordinately or as sub-wholes and sub-parts. It follows, then, that any whole thus established by definition is a partial whole, and this because in relation to its opposites or others it is the part, along with them, of some whole of higher order. And this whole in turn must be a partial whole. Were any whole not partial, the hierarchical order would be finite, and this would be contrary to a corollary of the postulate of dialectic that any class can be defined. Therefore, since definition leads to opposition, and since opposition is a condition of partiality and exclusion, the dialectical process implies an infinite hierarchical order of entities in discourse.

Systems are analytic wholes, but when taken in opposition, they are partial and incomplete. They are wholes with regard to their subordinate and member propositions, but with regard to other co-ordinate systems which oppose them by doctrinal definition, and which they similarly oppose and exclude, they imply one another as the parts of some more inclusive system

which is presupposed by them and implies them in turn. It can now be made clear that entities in opposition are not only parts on the level of the opposition, although they have the status of wholes for subordinate entities, but also that they exclude one another partially, rather than absolutely. Were they to exclude one another absolutely, they could not definitively imply one another as parts of some supraordinate class, and could not be in opposition, for a class which is not definitively implied is not the other or the negative of the class defined. Furthermore, the absolute exclusiveness of two classes would mean that they had absolutely no identity conditions in common, that they had no points of intersection; therefore, it follows that they could not be members of some common class, for membership in a whole involves the satisfaction of the identity conditions and definitive requirements of that whole. The manner in which parts exclude one another, therefore, is always partial and never absolute. It follows also that opposition can occur only between the parts of the same whole, for opposition is incompatible with total exclusion in so far as opposition arises through definitive implication and definitive implication is creative of partial exclusion but is incompatible with total exclusion.

If opposition can occur only between the parts of a whole, and never between the totally excluded parts of disparate wholes, then opposition contains within itself the source of its own resolution. It is required only that the whole be found which includes the given parts in opposition, and implies them. Until this supraordinate class be established, the entities in opposition have the status of wholes in opposition. They imply one another, and partially exclude one another. In this relation of opposition and partial exclusion, they become parts which presuppose a whole of higher order. This supraordinate class when established analytically implies the entities in opposition, and includes them as its parts. The given entities are still in opposition if considered as

wholes, but when given the new status of parts of a more inclusive whole, the opposition may be said to be resolved. The distinction might be made as follows : the opposition of entities as co-ordinate wholes is effective opposition, since the emphasis is upon their partial exclusiveness of one another ; the opposition of entities as subordinate parts of a whole is resolved opposition, since the emphasis is upon their common membership in the supraordinate class which implies them analytically as its parts.

Systems, when they are considered as analytic wholes, are in effective opposition. When they are seen to be only partially exclusive of one another, when they are found to have lines of intersection or some common identity conditions which presuppose a system of superior order which includes them, the opposition between them is capable of resolution. It is actually resolved when the supraordinate system is established by doctrinal definition, and when by further processes of analysis, the doctrines and theorems of the subordinate systems which were partially exclusive of one another are found to be parts implied, demonstrable, and ordered by the doctrine of the supraordinate system. Their relation to one another may be changed by the deductive order determined by the doctrine which demonstrates them ; some of the propositions may be excluded from the new analytic whole, being incapable of demonstration or implicative relation in that new whole.

The act of synthesis is the dialectic process by which this resolution is achieved. Just as definition and analysis served to establish systems as analytic wholes and to clarify their opposition, synthesis renders that opposition ineffective by finding a whole that implies and includes the systems in conflict as its parts. Synthesis, unlike analysis and definition, is not the exhibition of relations of implication obtaining between entities co-ordinate with one another, or between entities related as wholes and parts. For parts do not imply the whole which includes them ; the act of synthesis is therefore a-logical ;

the whole which the co-implicated parts presuppose must be found by an imaginative leap, by an act of intuition, when intuition is taken to mean a method of finding by some other route than implication.

Synthesis, although it cannot be described in terms of relations of implication, can be given exposition in other terms. The situation in which two systems are in opposition involves some degree of intersection between the two systems, points of intersection here being a linear analogy for the sharing of common identity conditions. If this were not so, the two systems would be totally instead of partially exclusive, and therefore could not be in opposition. The discovery of these points of intersection leads by imagination, inference, or intuition to the further discovery of the super-system which they presuppose. The act of discovery here cannot be interpreted or explained logically. What is presupposed is a system whose doctrine possesses the identity conditions or points of intersection, common to the systems in opposition, and thus implies the latter systems as its parts, reorganizes them, and resolves what was previously an effective opposition between them. The resolution of systematic opposition is in this sense equivalent to systematic synthesis.

But it must be seen that synthesis does not complete the dialectic process. The resolution is not effected until definition and analysis establish the doctrine of the supraordinate system, and fully develop its analytic implications. In other words, the discovery of the partiality of the systems in opposition, and therefore of their points of intersection, leads to the further intuition of a doctrine which will define a system capable of including the systems in opposition, and thereby resolving that opposition. But the act of intuition does not complete the task, for the system thereby discovered must be established as an analytic whole before the resolution is actually effected. The doctrine of the system and its deductive order must be determined, and this requires

further definition and analysis. When this has been accomplished the systems in opposition are no longer analytic wholes in effective opposition, but are analysed into the propositional parts of a new analytic whole, and thereby in resolved opposition, ordered, demonstrated, and implied.

There are two further aspects of synthesis and resolution to be mentioned. The first is that synthesis of partial systems must on its analytic and deductive side observe the rules of systematic structure, according to which a system can contain as its theorems only those propositions implied and demonstrable by its doctrine. Any proposition not so implied is inconsistent with the system, and is excluded therefrom. It is not a part of the system. When the opposition between two partial systems is resolved by their synthesis into a single system of higher order, the propositional entities of the two subordinate systems must be submitted to the order implied by the doctrine of the higher system. Propositions which are inconsistent with this doctrine, that is, incapable of being implied and demonstrated by it, must be excluded from the resolution. Such propositions form a set of propositions which singly or collectively remain in effective opposition to the system established by the doctrine which excluded them. If they are absolutely excluded, they are not in this relation of opposition, but if they are excluded and implied as opposites, they remain in partial opposition, and if given systematic elaboration, a new opposition of systems arises, and requires a system of still higher order to resolve. In this sense, the resolution has only been a partial resolution and not a final and absolute one. In the act of resolution a new opposition is generated.

It is clear, then, that all dialectical resolutions must be only partial. The original opposition was expressed in terms of partial exclusion. This partial exclusion is equivalent to some points of intersection, or some sharing of identity conditions. The degree of intersection, or the degree of common presupposition, may

approach the coincidence of the lines of implication, or absolute identity, as a limit, Coincidence or absolute identity is strictly a limiting condition. If it actually obtained, there would be no partial exclusion of the two systems; they would not be two systems; and there would be no opposition. The very nature of opposition therefore makes it impossible for an absolute or final resolution to occur, since the resolution occurs through the finding of a synthetic system on a basis of the common presuppositions of the systems in opposition. To the degree that the systems in opposition are partially exclusive and to the degree in which they have points of intersection or common identity conditions, the resolution of that opposition will be more or less partial, and will result in the exclusion of a smaller or larger number of propositions from the new system found by discovering the presuppositions of the systems in opposition, and defined and analysed by the doctrine discovered by an intuitive leap from those presuppositions.

A further point arises concerning the exclusion of propositions in the act of synthesis. It concerns the process of determining the selection of the propositions to be included. If the doctrine of the system is framed in one way, then certain of the total aggregate of propositions concerned, are implied and capable of inclusion; if the doctrine is framed differently, then others of the total aggregate are implied and capable of inclusion. Conversely, the propositions of the two subordinate systems are in relations of opposition and implication to one another. If certain of these propositions in opposition are to be included, then certain other propositions which they imply are to be included, and the propositions they oppose, excluded. The postulates of the resultant system must be framed accordingly. This might be called the process of dealing with co-implicated dilemmas, and though it is partly a matter of analysis and partly of synthesis, there is an act of choice involved which cannot be subsumed under any of the logical procedures described.

It is clear that dialectic never deals with isolated propositions; but neither does it deal with isolated systems. The fact of opposition is omnipresent in the dialectic situation. Systems in opposition may be thought of as sets of co-implicated dilemmas between their component propositions, and the resolution of systematic opposition depends in part upon the exercise of choice with regard to the alternatives involved, and subsequently upon developing the implications and presuppositions of that choice by analysis and synthesis. Dialectic is, unlike mathematical logic, never merely deductive; it is always a process of dealing with oppositions and dilemmas. It is clear, further, that in any instance of systematic opposition there is more than one possible resolution, more than one possible synthesis, depending upon which dilemmas are resolved and which are left unresolved. All of the propositions of the systems in opposition cannot be assimilated; the choice between co-implicated dilemmas determines which propositions shall be unified, and which shall be excluded.

There is a second respect in which every dialectical synthesis and resolution is incomplete and tentative. The supraordinate system which effects the resolution by a doctrine capable of demonstrating and implying some, but not all, of the propositions of the two subordinate systems, which have been synthesized, is defined by that doctrine. The act of definition immediately differentiates the new system as an analytic whole from its others, or opposites, other systems which when similarly defined become analytic wholes co-ordinate with it. The act of definition, in other words, required for the establishment of the system effecting synthesis and resolution, at the same time implies new opposition. This new opposition occurs on a higher level of the hierarchical order than the previous opposition. This opposition is clarified by the analytic elaboration and definition of the systems in opposition. This opposition, like the previous one, involves only partial exclusion of the

opposites, and this prepares the ground for a new resolution in terms of some third system of still higher hierarchical rank. The process repeats: the discovery of points of intersection, or common identity conditions, the discovery of the doctrine capable of effecting the needed synthesis, and then the establishment of the new system as an analytic whole by the definitive and analytic implications of the doctrine intuitively discovered in terms of the presuppositions of the subordinate systems in opposition. The new synthesis resolves the opposition, but only at the expense of excluding such propositions as are inconsistent with its doctrine, and thereby incapable of demonstration. With the establishment of this new system, and the resolution of the opposition of some of the elements of the two subordinate systems, two new effective oppositions arise, first between the propositions excluded, but implied, by the new system, and the propositions forming that system, and secondly, between the system as an analytic whole and the other analytic wholes which it definitively implies and partially excludes. These oppositions can be similarly resolved. The dialectical process in the clarification and resolution of oppositions is throughout the same, and it is inevitably and unalterably qualified by (or limited by its nature to) partiality and inconclusiveness.

This attribute of the dialetic process, its unavoidable frustration—if never to achieve a final resolution is frustration—is related to that corollary of dialectic which determines the hierarchical structure of the universe of discourse to be infinite rather than finite. There may be some final class or system, but as soon as it is submitted to dialectical examination, it inevitably generates its negative, and is definitively related to its other by opposition. Dialectic, as long as it remains in the universe of discourse, its proper sphere, and functions properly, can never rest in any ultimate whole or final system which achieves an absolute resolution of all the oppositions of partial systems subordinate to it. A human

being may cease to be a dialectician, and accept such an entity, but conversely to accept such an entity means that the dialectic process has ceased, or been relinquished. Any given instance of dialectical procedure must come to an end in the human situation, since dialecticians are also human beings, and must stop conversing to do other things. But such arbitrary and, as it were, pragmatic termination does not signify the finiteness of the hierarchy of classes or systems, nor render dialectic essentially capable of effecting the final and absolute resolution of any opposition in discourse. It simply means that a discussion has stopped, and that were it to continue indefinitely the discursive hierarchy would be as infinite as the dialectic interminable.

(3)

The regulative form of dialectic can now be summarized in a set of simple propositions. The definition of any entity, be it a class, a proposition or a system, implies by its negative functions of differentiation and partial exclusion, some entity (or entities) which are its others. These other entities may then be defined, and the set of entities thus established are co-ordinate with one another, and in opposition. Each of these entities taken in terms of its own definition is a whole. The analysis of each of these wholes exhibits a set of parts and the order of these parts; these parts are related to the whole by implication and inclusion. This group of analytic wholes taken in terms of their opposition to one another, are co-ordinate with one another and symmetrically imply and partially exclude one another. In this relation of exclusion they are parts, presupposing some whole as yet indeterminate. To say that a whole is presupposed rather than implied is analogous to saying that it must be discovered and postulated, rather than deduced and demonstrated. Synthesis is the process of determining the whole which includes the subordinate group of analytic

wholes in opposition. It is the positive character of these subordinate entities, rather than any implicative force which they possess, that suggests or leads to the discovery of some entity which may stand in relation to them as a whole to parts, asymmetrically and inclusively implying them, as further analysis will demonstrate, but not being implied by them. This entity is intuitively envisaged by an act of intellectual imagination, aided but not governed logically by the partial convergence of the entities in opposition. The partial convergence of entities in opposition is correlative to their partial exclusion; were they totally exclusive, they would be coincident in no respects, and therefore no common whole could be found to include them. The supraordinate entity is discovered by intuitive synthesis of the partial wholes, and the content of this intuition may then be expressed in a set of definitive and analytic propositions, which form the doctrine of the discovered supraordinate entity. These definitions and postulates have the status of intuitive propositions; and in their definitive and analytic functions, they establish the discovered entity as a whole having parts, suffering certain ordered relationships. The propositions of subordinate systems which are synthesized in this analytic whole of higher order become theorems, implied and demonstrated by the doctrine of the more inclusive system. Not all the propositions are so treated; some are inconsistent with the doctrine of the synthetic system; those which are thus partially excluded from the new system form an aggregate, and perhaps one or more systems, of propositions in opposition to the system which partially excluded them. The doctrine which defines the new system not only partially excludes certain propositions from membership as theorems in its deductive order, but by definition also excludes other systems co-ordinate with itself. Thus synthesis at the same time partially resolves the opposition of entities or systems on hierarchical levels subordinate to the level of the synthetic system, and also

generates new oppositions between itself and co-ordinate entities, which in turn require further synthesis by the intuitive discovery of a still supraordinate entity. The infinite nature of the part-whole hierarchy is expressed in the inevitability of partiality; every opposition is an instance of partial exclusion; every resolution is an instance of partial and incomplete synthesis; every synthesis, being partial, provokes further oppositions.

These processes of definition, generating the opposition of parts and establishing partial wholes; of analysis, developing the internal structure and order of these partial wholes, by demonstrating the implicative force of this whole over its parts; of synthesis, intuitively embracing these parts in some whole of higher order, and establishing this whole by an intuitive doctrine of definitions and postulates, which in turn analyse it and exhibit its partiality and the oppositions it implies—these processes constitute the movement of dialectic in a universe of discourse whose hierarchical structure has been found to be infinite. Dialectic has no end, in the sense of a conclusive, absolute, or final synthesis and resolution of oppositions. It can be repeated with as many entities as there are, with as many entities as can be submitted to this treatment. If the dialectical development must, and does, stop at any stage of its career because the pragmatic exigencies of a biological environment and of the human organism unavoidably call conversation to a close, at least the rhythm and direction of the process is sufficiently exemplified, and the possible endless repetition of the three major accents of that dialectic rhythm is sustained.

(4)

The foregoing summary concludes the logical description of dialectic. It is now necessary to evaluate that description in other terms than its own, and to examine its significance. To do this, the discussion will

first return to the empirical description of dialectic and attempt to interpret the aspects of dialectic in its empirical occurrence in relation to the logical account of it just given. This will be a dialectic process in it itself, in the sense that interpretation takes the form of translation; the empirical and the logical descriptions will be synthesized. This synthesis will reveal certain implications not previously discussed in either of the partial descriptions, and the following out of these implications will lead to what might be called a metaphysical description of dialectic. If the discussion stops at that point, its practical limitations are thereby indicated, but not its finality or conclusiveness.

In relation to the controversial aspects of human conversation, the logical form of dialectic may be thought of in several ways. Inveterate empiricists may prefer to think that the form of dialectic is an abstraction from the concrete attributes and phases of human conversation, conditioned as it is by language and temperament. Dialectic may be described abstractly, but its status is only that of a formulation of a great variety of specific and particular occurrences. Certain traits of actual argument are selected, isolated, and generalized and the hypostases in which this process of empirical analysis may result constitute whatever is meant by the logical structure of dialectic. Actual argument is dialectical in its own right in so far as it has certain traits, and not because it conforms to a logical structure which is nothing more than a linguistic derivative, given specious reification.

On the other hand, it may be held that the logical character of dialectic has a status independent of experience, human nature, and language. Dialectic has this logical character in its own right in so far as it is viewed as occurring in the universe of discourse as a realm of being independent of experience. Human conversation is dialectical to the extent that it is informed by the abstract nature of dialectic, and this extent

is limited by the conditions imposed upon human discourse by the indispensable agency of language and the unavoidable intrusion of human nature. Dialectic in the abstract, or in its universal status, is independent of these limitations; it is only in the particular event of an empirical instance of dialectic that the limiting conditions operate. In this view the logical form of dialectic is regulative of actual dialectic, and the latter approaches perfection of form to the extent that human controversy is disciplined by reference to the requirements of the abstract procedure.

To decide between the merits of the first and second of these points of view is irrelevant to the discussion of dialectic as a methodology. The opposition of these points of view is essentially the same as the opposition between Abelard and William of Champeaux, the dialectic theme of nominalism opposed to realism. It is, indeed, a fundamental issue, and one that must be met dialectically rather than dogmatically. To do that, however, would involve a dialectical discussion instead, as it is intended, a description of the methodological significance of dialectic. And for this latter purpose the second point of view is adopted, not dogmatically, but by the postulation of certain theses that conclude the section on language (p. 100). That act of postulation is equivalent to the admission that a partial system is herein developed, and that its oppositions are not denied but temporarily ignored.

The methodological attitude of the present discussion may, perhaps, be best expressed as follows: The logical description of dialectic is a regulative myth. Like Plato's perfect city in the skies it may be referred to, whether and however it exist in its own right, by human beings who in their terrestrial and empirical situation are faced with the phenomena of argument—and of government! The myth may have its own beauty; it may even be an ultimate reality instead of a fiction; but for the present it is a bit of logical fabrication which, like other fables,

may end with a moral and serve to illumine human affairs.

In the first place it is clear that no actual argument or controversy ever resembles in entirety, or even in large measure, the abstract form of dialectic. The examination earlier in this book of a number of cases of conversation and disputation revealed the discrepancy between what actually happens and the formal pattern of definition, opposition, analysis, synthesis, definition, and opposition in logical succession. Empirically dialectic starts with any one of these phases, and may or may not develop therefrom, may or may not achieve even some slight degree of resolution. This is so important to realize that it will be well to enumerate in detail the variety of specific occurrences that constitute human discourse. Then a translation of these specific instances into abstract terms will be attempted.

(1) Individuals sometimes agree about an isolated proposition, but upon further conversation discover that what they took to be the same proposition has not the same meaning for both of them. The identity of the verbal statement, which was differently interpreted by each, gave them the illusion of agreement. This illusion being dispelled, the conversation ends in disagreement.

This is an instance in which the logical act of analysis is performed. In the course of further conversation, the implications of the original proposition were analytically derived. But each of the individuals derived different implications from what they thought to be the same proposition. This suggested to them that the same statement meant different things to each of them. The original statement is returned to, and carefully defined by each of the disputants. The logical acts of definition at this point exhibit the opposition between two systems of interpretation. Their disagreement being clarified by the analytic development of these two systems, the argument goes no further in this particular case.

(2) Two individuals find themselves in agreement with regard to certain opinions. In the course of conversation they attempt to find the grounds for their common conviction, but in doing so discover that they are not in accord about the assumptions involved. Realizing their differences at this point, they return to the original theme of the discussion and find, in proportion as they differ with regard to the assumptions they make, their interpretation of what they thought to be a common belief to be different. They conclude, therefore, with some degree of disagreement.

This is an instance in which the attempt to demonstrate certain propositions led to the discovery of two opposed sets of postulates capable of making the demonstration. The further analytic elaboration of the dilemmas involved, then, exhibited the diverse implications and presuppositions of the original statements. Disagreement is clarified, and the argument goes no further.

(3) A conversation opens with the parties to it in agreement with regard to a number of very general notions relevant to the theme of discussion. The conversation proceeds to develop the consequences of this apparent agreement, but in the choice between the co-implicated dilemmas that are met on the way, the disputants find that they do not agree about the set of consequences to be derived from what they thought to be their common assumptions. On re-examining their initial ideas more carefully they discover the differences of opinion which caused their opposition. The argument ends with partial agreement and partial disagreement.

This is an instance in which the analytic development of what is apparently a single system results in a set of alternative implications. The choice exercised with regard to these dilemmas becomes the basis for redefining the doctrine presupposed. According to the sets of propositions selected for inclusion, two different systems are determined. The argument concludes with the clarification of a systematic opposition.

(4) Two individuals have read a certain book. They feel that they agree with the theses therein promulgated, but wish to ascertain precisely what they understand the doctrine of the book to be, and whether they understand the same thing. Their conversation is a delightful experience in the discovery of the great number of ideas and principles that are involved, and in the statement of many of the oppositions that the theory being discussed creates. They enjoy this experience in common understanding and apparent agreement.

This is an instance of the analytic elaboration of a system established by a set of theses. The doctrine is assumed, and the discussion merely exhibits what is thereby implied in the way of subordinate theorems and co-implicated dilemmas. The system is thus understood in terms of itself, and in terms of the doctrines it opposes. In so far as oppositions have been stated, the conversation has been somewhat dialectical.

(5) A dispute starts and ends with disagreement; but in the course of controversy, the disputants make clear to one another not only the grounds for their disagreement but its further consequences as well. This is another instance of dialectic engaged merely in the clarification of issues, differing from the preceding one only in that here it qualifies a dispute whereas before it was occasioned by an attempt to achieve common understanding.

(6) Individuals enter dispute over a proposition asserted by one of them. In order better to understand that proposition they seek to find the assumed doctrine which explains it. They find that they have been making different assumptions, and considering their opposition at this point, they find certain points of common conviction. This enables them to frame a doctrine in which they both agree, and in terms of this agreement, they reach a common understanding of the original theme of their controversy. They are then both able to assert the same proposition in the same sense.

This is an instance of dialectic more fully carried out. The attempt to demonstrate a given proposition requires the intuition of the doctrine it presupposes; the attempt to demonstrate the opposite of the given proposition yields another doctrine. These doctrines are found to have certain points of intersection or common identity conditions; and their systematic opposition is resolved by the synthetic finding of the supraordinate system which their points of intersection presuppose. Acts of definition and analysis establish this system, and determine the inclusion and order of certain propositions as its theorems, among these the proposition of the original disagreement. The original opposition is thus resolved by the achievement of some common insight upon the part of the disputants, this insight being expressed in the doctrine effecting the resolution. This doctrine, of course, has intuitive status, but whereas in the case of the subordinate doctrines in systematic opposition, two disparate insights were present, the system effecting resolution is founded by an intellectual intuition common to the two individuals.

(7) In the course of conversation individuals find themselves in general disagreement, but at the same time in agreement with respect to a number of relatively minor issues. They concentrate upon their points of agreement, and by discovering what is thereby presupposed, they reach a greater degree of understanding than they had in origin. Further elaboration of what is implied by their common insight terminates the argument with fairly general agreement.

This is another instance of dialectical resolution. The systematic opposition with which the argument started is resolved by the intuitive establishment of a third system which is presupposed by the propositions concerning which they agreed. Further definition and analysis clarifies their agreement, and reveals the sources of the opposition which opened the controversy. In terms of their common insight they are now able mutually

to translate their original differences, and to dispel whatever discrepancies in doctrine had previously prevailed.

(8) An argument progresses from disagreement to agreement between its participants. But although agreement has been reached on most of the points at issue, the disputants realize that their agreement has been attained only by leaving certain loose ends out of discussion. They appreciate that it is only by ignoring for the time being certain points at issue, that they can arrive at any agreement at all with regard to other matters.

This is an instance in which the dialectic pattern is even more completely realized. Not only is resolution effected, but that resolution is qualified and limited by the further oppositions it inevitably provokes. The loose ends of the argument consist in the aggregate of propositions which are excluded from the system effecting the resolution, discovered by imaginative synthesis, and established and developed by definition and analysis. These excluded propositions represent the effect of the choice among the set of co-implicated dilemmas that determined the presuppositions leading to the discovery of the system, which included and implied certain of the propositions, and excluded certain others. To realize that resolution is always at the expense of generating new oppositions is to realize that no resolution is final; that the agreement which may terminate controversy is only a temporary conclusion to be qualified by the still debatable " loose-ends " of the discussion.

(9) An instance similar to the preceding one is when two individuals upon reaching agreement after argument appreciate that were a certain third person present, they would now be jointly in opposition to this third party. In other words, they realize that their agreement does not preclude the possibility of further controversy, and this is equivalent to the qualification of a dialectic resolution by the exhibition of the further oppositions therein involved. A supraordinate system may synthesize and to some degree unify two conflicting

systems subordinate to itself, but when it is itself definitely established, it is immediately implicated in opposition with *other* systems which are its hierarchical co-ordinates.

(10) Arguments sometimes move from agreement through disagreement to agreement again, or conversely from disagreement through agreement to disagreement again. It would be impossible to give an exhaustive enumeration of the various modes and patterns in which actual controversies and conversations take place. But in general the foregoing instances exemplify somewhat the variety of ways in which human discourse is more or less informed by the logical structure and processes of dialectic. Many of these instances are dialectical in only one aspect or another, and are extremely simplified and incomplete if judged in terms of the abstract standard of dialectic procedure. Nevertheless, they are all cases of argument or conversation in which a certain mode of procedure seems to effect certain results. It is this about them which makes relevant the methodological myth of the logical form of dialectic. It will be illuminating now to examine cases of unsuccessful argument; that is, examples of conversation or dispute whose form is bad, or, what is equivalent, examples of controversy that in one way or another avoid dialectic or do not achieve it.

(11) Individuals are often content with clarification. It is sufficient for them if conversation stays within the bounds of polite agreement, and therein reaffirms itself. The manifold oppositions that hedge its boundaries are ignored, and therewith dialectic is avoided. It is considered impolite to be forensic; conversations that tend to become abstruse and philosophical, in short, dialectical, are under social ban. The significant point, however, is not that polemic is considered distasteful by some persons, but rather that if a conversation will not submit to the consideration of the oppositions upon which it borders, it cannot become dialectical. Clarification by itself is not enough.

(12) There is the familiar experience of argument in which the disputants seem to have no common meeting ground. Such argument is, of course, doomed to be barren of intellectual issue; its futility is equivalent to its non-dialectical character. Disputes of this sort often go on for hours before it is realized that, although there has been an apparent argument, there is no genuine opposition of opinions at all. The individuals concerned have been talking about totally different things, and for this reason the dispute between them has been illusory and therefore incapable of resolution or even of clarification.

This is an instance in which the propositions asserted respectively by two individuals are totally exclusive rather than partially exclusive of one another. The verbal similarity of the statements that couch the propositions frequently masks the absolute breach between what is severally intended, and creates the illusion of apparent argument. Propositions which are totally exclusive of one another are not in effective opposition; they have no common identity conditions; they do not imply one another definitively; they are incapable of inclusion in some supraordinate class or whole. Dialectic is completely prohibited by these conditions, and it can enter into such a situation only in so far as some common universe of discourse can be found, or in other words, in so far as the total exclusion is transformed by processes of analysis, definition and synthesis into partial exclusion, which then immediately presupposes the possibility of dialectic resolution.

(13) In some instances of the dissipation of contention, the agreement which concludes the affair is taken without qualification. The disputants either assert the propositions of their conclusion to be true independently of the limitations of the grounds of their argument, or fail to perceive that further controversy inevitably impinges upon whatever agreement has been achieved. This is again failure to be thoroughly dialectical, and human discourse is frequently defective in this particular respect.

It may be attributed to the failure of the disputants to assume an attitude of impartiality toward matters of discourse, an attitude that expresses the perception of the inconclusiveness and relativity of any instance of dialectic. Agreement viewed impartially is understood to be only temporary and determined by a partial resolution; disagreement viewed impartially is understood to be equally temporary, and capable of eventual resolution.

(14) In the course of argument an individual may assert a proposition as a fact. All argument ceases at that point. A proposition whose status is factual rather than discursive is incapable of any dialectical treatment whatsoever as long as it is regarded in its factual determinations. If the meaning of the fact is asked, it is possible for argument to continue in the interpretation of the fact. But if one proposition is merely asserted as factual and its opposite is denied as contrary to fact, the opposition is immediately nullified; the propositions become totally exclusive and are without co-implication. The further significance of this point will be discussed more fully later. For the present it is sufficient to see that a proposition can be dealt with dialectically only when it is taken in a field of implications. In such a context, it is capable of implication and demonstration, and of hierarchical subsumption, and therefore susceptible to the processes of definition, analysis, and synthesis. But a fact *qua* fact is not logically demonstrable, nor has it any hierarchical status whatsoever. To assert a proposition as a fact, therefore, is to take it out of the field of implications and out of the reach of dialectic. The attitude of impracticality is here needed to discipline human nature to avoid the common tendency to intrude facts into discourse.

(15) In all instances of argument in which no agreement is achieved, and there are many such, the fault lies in the limited powers of the intellectual imagination, and in the temperamental conditions that circumscribe its freedom.

Where insight is confined respectively to the disparate intuitions generating the systems in opposition, no synthesis can occur, and therefore no resolution. What is required is intellectual freedom to transcend the limitations of any partial insight, and by an imaginative leap, achieve a more inclusive view of things. Any system is founded in a doctrine whose propositions have intuitive status relative to the demonstrable theorems of the system. The opposition of systems is thus an opposition of disparate intuitions, and the accomplishment of their synthesis can only occur if each of the disputants is able to enlarge his insight, or to gain new insight which will be expressed in the form of new intuitive propositions. These may then establish a system of supraordinate rank, capable of including and resolving the systems founded in the partial insights. Synthesis is thus always an act of intellectual intuition. The disciplinary attitudes of explicit postulation and emotional clarity are required for its free and effective exercise.

The foregoing discussion makes clear, in the first place, the relation between the regulative logical form of dialectic, and the disciplinary measures proposed to make human nature capable of the manner of discourse so regulated. The attitude of impartiality acknowledges the infinite intent of the discursive hierarchy, and the partiality of any dialectical conclusion; the attitude of impracticality acknowledges the irrelevance of factual determinations to issues in discourse, and frees dialectic from the aim to reach conclusions finally true, or true extrinsically; and the principles of emotional clarity and explicit postulation are aids to the liberation of insight and the intellectual imagination, culminating in the act of intuitive synthesis.

In the second place, the theses developed in the discussion of language can now be translated into their logical equivalents. The ambiguity of verbal statements causes the apparent agreement or disagreement that so

often occurs in argument, and which dialectic is required to clarify by determining the precise propositional force of the verbal statements. The statement is understood when it is placed in the context of other statements which define and explain it, in what was called a mode of metaphor or a universe of discourse. Modes of metaphor and universes of discourse are equivalent to systems of propositions, in the context of which the meaning of any single proposition is determined. The opposition of systems is the logical formulation of the conflict of statements in diverse modes of metaphor or disparate universes of discourse; but that conflict is only intelligible if the modes of metaphor and the universes of discourse are not totally disjoined. Such disjunction would be equivalent to total exclusion and the lack of co-implication. Disputants must have some common language; to some extent they must move in the same universe of discourse in order to argue intelligibly, and in order to reach any agreement or resolution of their differences.

Furthermore, the phenomenon of translation which occurs between universes of discourse can now be formulated in terms of the subsumption of two partial systems in opposition under the system which includes and unifies them.[1] The propositions of the two systems in opposition are mutually translatable by reason of their partial intervalence with the set of propositions that comprises the third system which has effected their synthesis. Logical synthesis thus is the partial expression of the intervalence of each of the systems unified, with the system effecting the synthesis, and to the degree that this intervalence obtains, translation between them is rendered more or less possible. The intervalence of systems having points of intersection, or identity conditions in common, is the logical aspect of the congruence of partial universes of discourse or the overlapping of modes of metaphor, and the phenomenon of translation may be expressed

[1] See Appendix B, for discussion of intervalence and equivalence in relation to resolution and translation.

in any one of these sets of terms. It is by the phenomenon of translation that human beings understand one another and it is essentially this which is the aim of all human conversation and discussion. Agreement and understanding are thus both functions of the same phenomenon —the translation of systems, universes of discourse, or metaphors, as the result of their partial intervalence and their partial unification. The human value of the dialectic resolution is that, on the one hand, it depends upon the possibility of translation, and on the other hand, it actualizes that possibility.

Translation sometimes occurs in that preliminary phase of dialectic which clarifies the issue by the acts of definition and analysis. This is what happens when individuals disagree and yet understand one another. But the fact of their being able to understand one another somewhat is essentially incompatible with the permanence of their disagreement, for in so far as understanding occurs and translation takes place, the systems in opposition are somewhat equivalent, share identity conditions, and are susceptible to unification and synthesis. Synthesis effects the resolution which the preliminary understanding indicated was possible, and that resolution completes mere understanding and makes it more effective by the establishment of agreement. Dialectic aims at resolution as well as translation, and human conversation and controversy certainly seek agreement in order to complete understanding.

(5)

The relation between the description of dialectic in terms of language and of human nature, on the one hand, and in terms of logical form, on the other, has now been made explicit. In other words, the myth of the abstract nature of dialectic in the universe of discourse has served its methodological purpose of illumining and perhaps explaining the characteristics of concrete discourse in the actual situation of human argument and

controversy. But there is one fundamental discrepancy, the consideration of which raises the most crucial problem to be faced in the logical account of dialectic. The solution of the problem is critical; it not only has to do with the very essence of dialectic, but it reveals that this essential characteristic of dialectic is what makes it intellectually significant.

The discrepancy mentioned is between what appears to be contradiction in actual argument and what is claimed to be opposition rather than contradiction in discourse. Contradiction is a relation between propositions exhibited by the acts of assertion and denial. The discrepancy arises because human discussion is infected with assertions and denials whereas the propositional entities in the realm of discourse simply are; they are neither asserted nor denied; they are merely *entertained*. Here then is a conflict between the phenomena of contradiction and of opposition which requires clarification and resolution.

Contradiction arises through the assertion of two propositions related so that the assertion of either one is equivalent to the denial of the other. Opposition arises through the implication of otherness in definition, in its function of differentiation and negation. But negation is not denial. Two propositions in opposition do not contradict one another; they negate one another in so far as they partially exclude one another. Two propositions in contradiction, on the other hand, exclude each other totally. This is one significant difference between opposition and contradiction.

The fact of disagreement which is the cause of actual controversy and dispute among human beings is thought to be due to the phenomenon of contradiction. One individual asserts what another denies. If this is so, then it follows that disagreement and the actual controversies it engenders in human discourse are not capable of dialectic treatment, for if dialectic is unable to treat propositions in absolute exclusion, it will be prohibited from dealing with contradictions. This is the

crux of the problem. The attempt will now be made to meet this difficulty by distinguishing between the contradiction of isolated propositions, and the contradiction of propositions in systems. If it can be shown that there can be no contradiction of propositions in systematic contexts, then it will follow that since dialectic in dealing with any set of propositions always generates their systematic contexts, the phenomenon of contradiction is essentially irrelevant to dialectic.

To assert a proposition is equivalent to asserting its truth. The rule of contradiction is that if one of a pair of contradictory propositions is true, the other, its contradictory, must be false. To deny a proposition is therefore the same as asserting the truth of its contradictory, and conversely. In the case of isolated pairs of propositions, then, contradiction must be interpreted in terms of the relation of the propositions to the facts. The assertion of an isolated proposition as true is an assertion that the facts are such and such; the contradictory proposition is denied truth because the facts are not such and such.

But propositions are entities in discourse. Whatever relation they bear to the facts, they also are in relation to other propositions, the aggregate of these relationships comprising the field of implication. To assert a proposition as true thus has two meanings other than the one just stated: it may mean that the proposition has intuitive status, that is, that it is assumed to be true; or it may mean that it has demonstrative status, that is, that it is implied truly by other propositions, which are themselves either demonstrated or postulated. These two definitions of truth describe what might be called systematic or intrinsic truth, since truth here depends upon, and only upon, the relation of propositions to one another in discourse. The truth of an isolated proposition might be called extrinsic truth, since it depends upon the relation of the proposition to entities out of discourse, facts rather than propositions.

Dialectic, consisting of processes of definition, analysis, and synthesis, can never apply to a single isolated proposition, or to a pair of such propositions in contradiction. It may start with a pair of propositions in apparent contradiction, due to the acts of assertion and denial, but if it is to be effective, dialectic must reinterpret the contradiction as merely apparent, and show that it is rather an instance of opposition. It does this by placing the propositions in question in systematic contexts, by exhibiting their relationships of implication, definitively and analytically. As members of a system, the propositions are asserted true intrinsically, either as assumed or demonstrated, rather than extrinsically, and with this type of assertion dialectic is able to proceed.

But now a curious paradox arises. If the propositions in apparent contradiction are, by reason of their implications, not members of the same system they cannot contradict one another systematically. They may, of course, still be in contradiction in terms of the facts, but that is in their status as isolated propositions, and not as elements of a system. Since a proposition is defined by the system of propositions to which it belongs it cannot be contradicted by a proposition belonging to another system, and defined by that other system, if that other system has some doctrinal elements in common with the first system. In that case, the two systems would be only partially exclusive of one another, and therefore in a relation of opposition rather than contradiction.[1]

This can be stated more clearly, perhaps, as follows: For a proposition to be asserted true in a system either means that it is a postulate or definition assumed to be true, or a theorem proved to be true. For a proposition to be denied in a system means that it is neither assumed nor demonstrated in that system, which is equivalent to saying that it is inconsistent with that system, and therefore not a member of it. A system is a set of

[1] Cf. below, p. 195.

propositions consistent with one another. Unless the system is logically imperfect there can be no contradictory propositions among the members of the system. All such propositions are excluded from the system by its definitive and analytic development. A proposition excluded from a system can neither be asserted nor denied in terms of the system. It is simply negated, that is, excluded from the system by the doctrine which determines the demonstrative force of the system. If the excluded proposition is to be asserted, not in relation to the facts but in relation to other propositions, it must be so asserted in the context of another system, with whose members it is consistent, either as a postulate or as a theorem.[1]

The relation of the two propositions which were in apparent contradiction is now to be determined by the relation of the respective systems in which they are true. The two systems may be in a relation of opposition or of contradiction. If they are in opposition, they are related to one another as parts of some supraordinate whole. If they are in contradiction, they are not so related; they are totally exclusive of one another. But this cannot be, for if they were totally exclusive of one another, their contradiction could not be determined systematically, for two systems are inconsistent with one another in precisely the same sense that two propositions are inconsistent with one another, that is, by the determination of their relations of implication. Two systems can be inconsistent with one another only in so far as they are partially members of some more inclusive system, this latter system being capable of demonstrating some of their member propositions, but not all of them. Two systems, therefore, if they are not identical with one another, must be only partially inconsistent with one another, if their inconsistency is to be determined at all. Therefore, no two systems can be in relation of total exclusion of one another and at the same time be judged inconsistent with another.

[1] See Appendix C, for discussion of the compatibility of postulates.

They can be inconsistent only as members of a more inclusive system, just as propositions can be inconsistent only as elements in a system. Two systems, therefore, cannot be in contradiction if contradiction involves total exclusion; but if contradiction does not involve total exclusion then in so far as it occurs between systems, or between the propositional elements of systems, it is the same as opposition.

This may be summarized in the following statements: (1) Contradictory propositions can only occur within a single system, since their inconsistency with one another is determined by their implicative relation to other propositions, and these implicative relations determine a system. (2) But a consistent system excludes all the contradictories of its member propositions. (3) The contradictories of a given set of propositions forming a system can, therefore, only occur outside of the system of that given set. They may or may not form a system, according as they are analytically treated or not. If they are not so treated, however, they have the status of isolated propositions, and therefore can be asserted only in the manner of isolated propositions. (4) But if they are placed in a systematic context of their own, they cannot contradict the propositions of the first system, for that would be inconsistent with statement (1), namely, that contradictory propositions can only occur within a single system. (5) Therefore, if the propositions are in apparent contradiction, but belong to different systems, the two systems must belong to some more inclusive systems. (6) But then the two systems are not totally exclusive of one another; their member propositions must be in some measure consistent with one another, and in some measure inconsistent with one another. (7) The supraordinate system excludes such member propositions of the subordinate systems as are inconsistent with its analytic character. (8) These propositions may again be thought to be in apparent contradiction to the propositions included in the system. (9) But if they

are systematically developed, it will become clear that the contradiction is only apparent rather than real. For again the systems are found to be only partially exclusive rather than in total exclusion and contradiction. (10) Therefore it may be concluded that in so far as the relation of propositions is determined by the system to which they belong, and the relation of systems of propositions is determined by the supraordinate system to which these systems belong, entities in discourse, whether they be propositions or systems, can never be in contradiction so long as they are treated entirely as entities in discourse, that is, treated systematically, which is equivalent to their being treated dialectically.

The dilemma which this line of reasoning faces may be stated as follows: either there can be no consistent system, or there can be no contradictory propositions in relation to any system. This dilemma is solved by the distinction between the partial and total exclusion of propositions from a system. Any system can be consistent if it excludes certain propositions; but if it excludes them totally, it places them in relation of contradiction to itself. On the other hand, if it excludes them partially, the system can be consistent, and yet be related to the excluded propositions by opposition rather than contradiction. Therefore, in terms of the ubiquity of partial exclusion as the relation between propositions and systems the dilemma is resolved: systems can be internally consistent, and at the same time not be subject to contradiction by propositions made external to itself by exclusion.

In so far as dialectic depends upon definition, partial exclusion obtains universally among propositions or systems submitted to dialectical treatment. Definition is incapable of establishing total exclusion. Therefore, contradiction is irrelevant to propositions treated definitively and analytically. Contradiction can only occur between propositions in isolation. But dialectic cannot deal with propositions in isolation. Therefore,

dialectic is faced only with the relationship of opposition between propositions and systems, and never with the relationship of contradiction.

Contradiction, if it obtains only among isolated propositions must be determined by the relation of these propositions to the facts. In no other sense can an isolated proposition be asserted true, and unless one of the pair of propositions is asserted true, the other cannot be denied, and they are not in contradiction. But the relationship between a proposition and a fact is a relation between an entity in discourse and an entity not in discourse, and this relationship itself cannot be in discourse.[1] Therefore, it follows that in the universe of discourse the relationship of contradiction never obtains, although it might obtain between isolated propositions in relation to the realm of facts. This conclusion is equivalent to statements already made that the intrusion of a fact stops dialectic, that extrinsic truth is irrelevant to dialectic, that dialectic is only concerned with the opposition of entities in discourse, and that therein dealing with relations of definitive and analytic implication, it only asserts the truth of a proposition systematically or in its intrinsic relation to other propositions.

With regard to an isolated proposition taken as an isolated proposition in discourse, the dialectical maxim is that it may or may not be true, which means that it can neither be true nor false. This holds for the proposition as long as it maintains an isolated status in discourse. If it is placed in a systematic context, and is therein consistent, it is a true proposition in that system, and only in that system; its truth is determined by the internal structure of the system. Whenever it is regarded merely as an isolated proposition, all that can be asserted is that it may or may not be true. This is a genuinely problematic disjunction, and not as it is usually conceived an apodeictic one. To say that an isolated proposition taken merely as an entity in discourse may or may not be true does not

[1] See Appendix D.

mean that it must be either true or false. If it could possibly be either true or false, then it actually could be either true or false. It is in this sense that it is said that truth is irrelevant to an isolated proposition taken merely as an entity in discourse.

One further point must be made in order to demonstrate that contradiction can never occur in the universe of discourse. Two isolated propositions may be considered in apparent contradiction, apart from any relation either proposition may have with the facts. If these two propositions are examined as an isolated pair, the contradiction can be shown to be merely apparent. To be in contradiction, the two propositions must have a term in common. But a term is defined by the proposition in which it is a member. If the two isolated propositions are not identical, the term which is supposed to be common to both of them cannot be identical, since it is determined in two different contexts. A term in a proposition is analogous to a proposition in a system. If this is so, then it follows that either the two propositions are identical and then they could not be in contradiction, or the two propositions are not identical, and then they possess no common term. The apparent contradiction arises because of the identity of one of the verbal terms of the two statements expressing the propositions ; but this identical verbal term is rendered diverse by the definitive force of its propositional context. Therefore, its identity is only apparent, and the contradiction dependent upon that identity is similarly only apparent. Two propositions, then, even if they are considered in isolation, cannot be in contradiction as long as the treatment of them is thoroughly dialectical, that is, contained entirely within the universe of discourse, and having no reference to entities not in discourse.

This demonstration that two isolated propositions cannot contradict each other in so far as they are treated discursively, corroborates the problematic disjunction with regard to any single isolated proposition, that it

may or may not be true. According to this disjunction, a single isolated proposition can neither be true nor false; it can merely be entertained. It follows, then, that if a pair of isolated propositions are taken in apparent contradiction, that contradiction must be *merely* apparent, because if the truth or falsity of neither proposition can be asserted, the contradiction cannot be asserted. One of the pair of propositions must be asserted true in order for its contradictory to be denied. But an isolated proposition may or may not be true. Therefore, it can never be in a relation of contradiction. This applies, of course, only to propositions in their discursive relationships, and not in relation to the facts.

In a system, however, propositions can be either true or false; and in the same sense in which their truth is determined by the implicative force of the system, their inconsistency with one another is determined. A proposition in a system, therefore, can not only be true, but also in a relation of inconsistency with other propositions. These inconsistent propositions are not denied truth thereby; they are simply denied truth in the given system, which is equivalent to their being excluded from the system. They are negated rather than denied. The inconsistency of propositions is the same as the relation of opposition between them: both depend upon partial rather than total exclusion; and in both the truth of one of a pair of inconsistent propositions does not imply the falsehood of the other, because the truth of the former is determined in a given system, and the latter is merely excluded from that system, and may itself be similarly true in some other system, which in turn would exclude the first proposition as inconsistent with it. What appears to be the contradiction of propositions in a system is thus seen to be rather a relation of inconsistency or opposition, involving negation and not denial. The relationship of inconsistency permits both of the pair of propositions, between which it obtains, to be true in different systems, whereas contradiction permits only one

of a pair of propositions to be true; the other must be false.

Two theses may be formulated with regard to the truth-value of propositions as entities in discourse. (1) An isolated proposition either may or may not be true, or, in other words, it is neither true nor false. Contradiction cannot occur, therefore, between isolated propositions. (2) Any proposition can be true in some system in which it is determined implicatively. For a proposition to be false means that it is not implied in a given system, which is equivalent to its being excluded from that system as inconsistent therewith. Two propositions in the same system, therefore, cannot remain in a relation of contradiction; and two propositions in different systems can both be true in their respective systems, and therefore cannot be in contradiction. The relation that obtains between elements of a system, or diverse systems, or between systems as analytic wholes, is one of inconsistency. Inconsistency must be a relation of partial exclusion. If it involved total exclusion, two systems inconsistent with one another would not be partial wholes but absolute wholes,[1] incapable of further synthesis. The hierarchy of discursive entities would be finite. Therefore, in so far as entities in discourse are treated dialectically, their inconsistency is always a relation of partial exclusion, and the relation of total exclusion or contradiction never obtains among them.

If contradiction is a relationship that never obtains among the entities of the universe of discourse, there are then two further implications of primary significance to be drawn, one with regard to the nature of dialectic in its actual occurrence in human controversy, and the other with regard to the nature of the universe of discourse in which dialectic has its formal and abstract nature.

In the first place, then, in so far as human discussion

[1] Such final systems would contradict one another, and one would be absolutely true and the other false. Total exclusion is thus seen to be equivalent to contradiction.

is dialectical, it is never faced with contradictions. Disagreements, if they are always instances of opposition rather than contradiction, are always capable of resolution. If assertion and denial occur in human controversy, and are intended as the assertion or denial of fact, then the discussion ceases to be dialectical. But if the assertion or denial is intended dialectically, that is, as the assertion or denial of the implicative or demonstrative relationships of a proposition in a system, then such acts of assertion or denial exhibit relationships of inconsistency rather than contradiction. Inconsistency determines the exclusion of a proposition from a system, but this exclusion is always partial, and therefore an instance of opposition rather than contradiction. The logical nature of dialectic may therefore be summarized as follows: dialectic deals exclusively with opposition between entities in discourse; every opposition is capable of resolution; every resolution is inconclusive, being in itself as partial as the entities between which opposition was resolved. Human conversation and argument in so far as it is dialectical need never end in disagreement, but on the other hand, if it is terminated by agreement, that agreement is not final, and the propositions which express it are only true in the same limited sense in which the agreement is established. They are true in the sense of being consistent with a doctrine that is admittedly partial and inconclusive. The dialectical attitude toward such agreements, therefore, must be one of impartiality. The partisanship which generates the controversy must be qualified by impartiality toward whatever conclusions are reached. Dialectic is not interested either in the final truth about anything, or in actuality; it is interested rather in what may or may not be true, that is to say, possibility. It is a process of entertaining any idea as possibly true, of engaging in the intellectual partisanship provoked by such an assumption, and of maintaining at the same time an attitude of intellectual impartiality throughout.

This leads to the second implication. If the universe of discourse is free from the relation of contradiction; if any entity in discourse may or may not be true; if the universe of discourse is an infinite hierarchical order whose elements are in infinite opposition, and each opposition is capable of only partial and inconclusive resolution, then the universe of discourse must be a realm of possibility. The analysis of the universe of discourse as the realm of possibility constitutes a metaphysical description of dialectic.

3. The Metaphysical Description

A metaphysical theory is an analytic system whose differentiating trait is that it claims to be the analysis of an ultimate whole. It is clearly an instance of dialectic in its systematic aspect, but its claim to be the analysis of an ultimate whole gives it a thoroughly dogmatic quality, since an ultimate whole transcends opposition, and the theory which is its analytic equivalent would have the status of finality.

If there is any whole which is at the same time ultimate and infinite, the metaphysical theory presenting the definition and analysis of that whole might be free from dogmatism and be thoroughly dialectical. The postulation of such an ultimate class would not be ridden by the difficulties in the theory of types, since being infinite this ultimate class would be indeterminate. It would be ultimate in the sense of including all entities of a certain order, and not being similarly included. It could not include itself because being indeterminate it would not have the status of an entity of the specified order, and therefore could not be a part of that order. It would be determinate in one respect, however, and that is with regard to the ordered relation of its parts. Such an ultimate whole would be at once determinate and indeterminate if it be thought of as the determinate order of an infinite class of entities. In respect to the number of entities included, the class would be infinite or indeterminate ; in respect to the order of their inclusion the class would be highly determinate.

The comprehensive universe of discourse is an ultimate whole in the sense defined. It includes all the entities of a certain order : terms, propositions, systems and all higher partial universes of discourse. The order of these entities is the hierarchical structure of part-whole

relatednesses, and this is both an infinite and determinate order. In so far as the comprehensive universe of discourse is an indeterminate class, it cannot be a part of itself; and in so far as it is determinate, as the order of its members, it cannot be a member of that order, for it is that order.

It should be observed, furthermore, that the comprehensive universe of discourse is designated as an ultimate whole, and not as *the* ultimate whole. If it were *the* ultimate whole it would have to be thoroughly indeterminate and absolutely inclusive. But the universe of discourse is determinate as a certain order of entities, and this determination defines the nature of the universe of discourse in such a way that it is exhibited in opposition to an order of entities which are not in discourse. The universe of discourse being *somewhat determinate* is thus capable of definition and analysis; and this definition and analysis not only determine the universe of discourse, but by differentiation and partial exclusion determine and imply its opposite. Its opposite as determined by the negative force of definition is merely the class of all entities not in discourse.

The metaphysical theory whose postulate is that there is a comprehensive universe of discourse can, therefore, be advanced dialectically. It will, in the first place, attempt a definition and analysis of the ultimate whole it has postulated; and in the second place, it will attempt to deal with the opposition provoked by the definition and analysis of that whole, the clarification or resolution of which can have only the dialectical status of inconclusiveness and partiality. This is equivalent to saying that the metaphysical theory if it is dialectical must occur in the universe of discourse which it postulates and attempts to analyse, since dialectic is defined as occurring only in the universe of discourse. This is not paradoxical, although it may appear so. Any metaphysical theory is a partial system even though it be the analytic equivalent of an ultimate whole; for that whole being capable

of analysis must be determinate, and in so far forth must itself be partial. In the same sense then that the comprehensive universe of discourse can be at once infinite and determinate, it can include in itself the metaphysical theory which claims to be its analytic equivalent.

The two tasks incumbent upon a metaphysical description of dialectic have been stated. The first is the definition and analysis of the universe of discourse as an ultimate, infinite and determinate whole. Dialectic has its being in the universe of discourse. It occurs usually in partial universes of discourse, but if there is a realm of discourse in general, the nature of dialectic must ultimately be interpreted in terms of this comprehensive universe of discourse.

But since this metaphysical interpretation of the nature of dialectic in terms of discourse in general occurs in discourse, and must submit to the processes of dialectic, if it is to avoid dogmatism, a second task is imposed upon it. The metaphysical doctrine in defining the universe of discourse becomes a determinate system, therefore partial and in opposition. The clarification, and perhaps, the resolution of this opposition is the second task; in a sense, it is a dialectical consideration of discourse as a whole and since dialectic is being described in terms of that whole, the discussion at that point enters upon a dialectic of dialectic itself, however anomalous that may seem.

(1)

The postulation of a general universe of discourse does not necessarily involve any ontological predication. The postulate, furthermore, is not to be mistaken for an existential proposition; it is rather an intuitive proposition in the metaphysical doctrine here being developed, and should be regarded as having the same force as a propositional function.

It is postulated that there is a comprehensive universe

of discourse which has the character of an infinite class of ordered entities whose structure is determinate.

The universe of discourse considered as this ultimate whole is a realm of being. The entities of this realm of being are specified as terms, propositions, systems, partial universes of discourse, and the relations obtaining severally among these entities. The relations have been specified as relations of implication, inclusion and exclusion, and such derivative relations as consistency, intervalence, presupposition, identity.

There are no unrelated entities in this realm. A term may be considered as a relation of subordinate terms. A proposition is a relation of terms, and thus is a relation of relations. A system is a relation of propositions. A partial universe of discourse is a relation of systems. This hierarchy of relations can be developed infinitely in either direction. The universe of discourse is an infinite realm because it is this hierarchy of relational entities. Though infinite the universe of discourse is a whole including parts in the sense of a form having content. In other words, it is a whole because it is formally determinate.

It is the precise determinate character of this infinite realm that is metaphysically significant and requires analysis. That character is such as to identify the universe of discourse with the realm of possibility. It does not exhaust the realm of possibility, however, but it satisfies all of its requirements.

Possibility is a metaphysical ultimate. It is not here defined. Some of its specific traits will be exhibited, however, in the analysis of discourse as a realm having the character of possibility.

Possibility has three specifications: (1) the inclusion of every entity and its opposite; (2) the relatedness of every entity so included with every other entity; (3) the determinateness of every entity so included, and of all the relations in which it stands.

The universe of discourse as a realm of being fulfills

these specifications. (1) It includes every entity of a certain kind, and all of its opposites. (2) Its hierarchical order relates every entity so included with every other entity, but they are not all related proximately. (3) Every entity so included can be defined and analysed.

But the universe of discourse includes only all of the entities of a certain kind; i.e., certain specified relations. It does not, therefore, exhaust the realm of possibility; it is identical with it in character, in intension, but not in extension. Possibility includes the realm of actuality, and the entities of this realm are totally excluded from the universe of discourse. The relation between possibility and actuality, and its implications for discourse and dialectic will be discussed later.

The determinate structure of the universe of discourse is the logical form of dialectic in so far as dialectic is in discourse potentially. In other words, the metaphysical nature of dialectic may be described in terms of the possibility of the infinite determinations of an infinite class of entities infinitely related, all of these determinations having a certain prescribed form. This form is itself determined by the general character of the relationships obtaining among entities in discourse, and has been defined in the logical description of dialectic.

Dialectic as the complete potentiality of discourse is perfectly inexhaustible. It is an infinite class of logical determinations, no one or group of which can be taken in isolation. Dialectic may be defined metaphysically as the logical structure of the universe of discourse when that is considered as an infinite class of parts, all of which are internally related. The universe of discourse is, therefore, a whole, capable of infinite determinations. In this sense it is a realm of possibility, and dialectic becomes the class of all possible determinations in discourse.

The implications of this definition agree with previous considerations. By reason of the logical form of dialectic, the relation of contradiction does not obtain in the universe

of discourse. If it did, discourse could not be a realm of possibility, for certain entities would then be excluded. The inconclusiveness of dialectic, furthermore, is correlative to the infinite class of possible oppositions among the entities of discourse, and their infinite relatedness. Finally, in the sense in which dialectic is potential in discourse as a realm of possibility, its inconclusiveness is inexhaustibly therein. It is determinate as a logical form, but the content of that form comprises the unlimited class of possible relational structures fulfilling its determinations.

As an activity in any actual occasion, dialectic retains these essential characteristics, but without the perfection that it has as possibility of discourse. Dialectic may be actually always inconclusive, but its inexhaustible inconclusiveness is only a possibility. As a series of logical acts dialectic actualizes only some of all the possible determinations in discourse. The active dialectic process thus always has the appearance of partisanship, whereas in its state as a passive potentiality in discourse it has the aspect of perfect impartiality. Dialectic, however, must combine both of these traits, though in the actual occasion of dialectic, the partisanship exhibited is limited, and the impartiality only imperfectly maintained.

Actuality in general may be defined as a limitation of possibility. Whatever is actual must be possible; but not all that is possible is or can be actual. Actuality is a set of possibilities which totally excludes other possibilities from membership in the set. This exclusion is determined by the law of contradiction. What in the realm of possibility is the opposition of entities is the relation of contradiction in the realm of actuality. Possibility is totally inclusive of *all entities*; actuality is totally exclusive of some entities.

In terms of the universe of discourse, actuality is expressed as merely one possible system of propositions, internally consistent, but partial and in opposition to other possible systems. But this is an interpretation

of actuality in terms of discourse as a realm of possibility. The opposition between actuality and possibility can, however, be viewed in terms of actuality rather than possibility. If this opposition is to be considered dialectically it must go on in the realm of discourse as the attempt to clarify and resolve the opposition between two systems, in this case two metaphysical theories.

(2)

Actuality is a metaphysical ultimate, and is taken here without adequate definition. Some of the traits which specify it, however, may be enumerated: (1) It is a finite class of entities internally related to one another; (2) the opposite of every entity so included is totally excluded from this class as contradictory; (3) among the other determinations of this class of entities are the dimensional determinations of time and space: the entities which satisfy these determinations may be called existences, events, or actual occasions.

Actuality as the class of all possible events or existences totally excludes the universe of discourse in its metaphysical character as a realm of pure possibility. The entities of discourse do not satisfy the specifications of actuality; the determinations of discourse as a whole are inconsistent with the determinations of actuality. In its relation of total exclusion to discourse, actuality becomes the class of all entities not in discourse, what, in earlier discussion, was designated the realm of facts in contrast to discourse as the realm of propositions.

This theory of actuality can be carried no further dialectically. It postulates actuality as a class of entities not in discourse, and as an ultimate finite whole, totally exclusive of the universe of discourse as another ultimate whole. But the relation of total exclusion cannot occur within the universe of discourse; therefore the relation between discourse and actuality when so defined, cannot be treated discursively, and dialectic must give way

to silence as the dogmatic resolution of this opposition. The realm of facts or events is the realm of brute existences in themselves unintelligible; the universe of discourse is the order of intelligibles, and the relation between these two realms being an external relation, is not included in discourse and is therefore unintelligible.

There is an alternative way of stating the relation between actuality and discourse so as to render it intelligible and capable of further dialectic. Actuality is included in the realm of possibilities which are both actual and not actual. Actuality and discourse are thus included as parts of possibility as a whole. Actuality may be so included either as a class of possible events or existences, or as a system of true propositions about those events or existences. In the former status, actuality would still be external to the realm of discourse: in the latter status, as a system of true existential propositions, actuality is internal to discourse, as the realm of all possible systems, just as actual events are included in the realm of all possible entities. It may now be possible to resolve the opposition between the realms of actuality and discourse, if that opposition can be treated as the relation between one system and all other possible systems.

But upon further examination dialectic is again frustrated. Actuality is included in discourse as a system of true, existential propositions. The system as a whole claims truth, and each of the isolated propositions, having existential import, claim truth in isolation. The system excludes all propositions which are contradictory to its members, and all systems contradictory to itself. They are not excluded as opposites, since then they might be true in some other system. But the system of the actual claims to be the system of all true propositions; whatever is excluded therefrom is from the standpoint of the system of actuality, categorically false. All propositions excluded from the system are categorically

denied truth. The exclusion is therefore the total exclusion of contradiction. The system of actuality is determined in its relation to all other possible systems by the law of contradiction. The relation between the discursive system of actuality, and the remainder of the universe of discourse is therefore incapable of dialectic consideration. Actuality as a system of true existential propositions is properly included in the universe of discourse, but when it is so included and treated in terms of its claims as a system of actuality, it is thoroughly inconsistent (*in contradiction*) with the character of the universe of discourse as a realm of possibility, and with the logical structure of that realm which makes the activity of dialectic possible. Furthermore, the propositions of such a system claim to be true in isolation. They are existential propositions; their truth, therefore, is an extrinsic relation between the given proposition and the order of facts and existences. The system as a whole in its claim to truth is in this external relation to the order of facts and existences. But the relation between a proposition or a system of propositions and the realm of facts is a relation external to the entities in discourse. It cannot be considered discursively, therefore, and the truth which is asserted when this relation is exhibited or indicated or denoted, is irrelevant to the processes of dialectic.[1]

This discussion may be summarized as follows: (1) In so far as actuality is a realm of brute existences or events, it is totally exclusive of discourse and unintelligible, both in itself and in its relation to discourse. Dogmatic silence is the only resolution of this difficulty. (2) In so far as actuality is included in discourse as a true system of existential propositions, each of them true in isolation, it is governed by the law of contradiction. But the law of contradiction does not obtain in the universe of discourse in so far as the logical structure of that universe is dialectical. But in its dialectical deter-

[1] See Appendix D.

mination, the universe of discourse is a realm of pure possibility. Actuality, therefore, as a system in discourse is inconsistent with the nature of discourse as the realm of dialectic. The opposition between the system of actuality, and all other possible systems in discourse is genuinely a contradiction rather than an opposition, and therefore cannot be resolved. Dialectic is again silenced. (3) But this conclusion merely reaffirms what has been described, both logically and metaphysically, as the nature of dialectic. Dialectic is entirely an affair in discourse, and only in so far as discourse is a realm of possibility. A system of propositions which claims to be true as the system of actuality, alters the character of the discourse relevant to its consideration by intruding the law of contradiction; and furthermore, involves discourse in an extrinsic relation to the order of facts or existences. In these two respects dialectic is excluded from such discourse. (4) Dialectic cannot deal with the relation of actuality and possibility as a relation between brute existence and discourse, since the relation between the unintelligible and the intelligible is itself unintelligible or, in other words, since that relation is external to discourse. Nor can dialectic deal with the relation of actuality and possibility as a relation between a true discursive system and all other possible systems in discourse, for that involves a relation of contradiction, and an extrinsic relation between existential propositions and the facts with regard to which they claim truth. (5) The conclusion is, therefore, that the relation between actuality and possibility is incapable of dialectic resolution, in so far as actuality is taken either existentially or discursively, as an order of entities genuinely different from the status of merely possible entities. This conclusion is equivalent to the thesis of the metaphysical description of dialectic, that dialectic is exhaustively and entirely an affair in the realm of possibility; it is passively potential therein as the determinate order of the entities of that realm, and the activity of dialectic

is limited to the exhibition of the relationships potentially resident in the universe of discourse as the realm of infinite dialectical possibilities.

It should be clear without much further statement that if the system of propositions that claims the distinctive status of being the system of the actual, were treated merely as a possible system in discourse, it would then be in opposition to other possible systems, and capable of dialectic procedure. But such treatment would be equivalent to denying its relevance to actuality. Its propositional members would not be considered as existential, but rather as propositional functions. In isolation they would neither be true nor false; their only claim to truth would be in terms of their consistency in the given system, and the system itself would be established not by the existential truth of its doctrine, but by the postulated truth of the propositions it held intuitively. Therefore, all propositions excluded from such a system would not thereby be denied, for in isolation they would be neither true nor false, and in a consistent systematic context, each of them would be true. The exclusion would be partial; it would be a relation of opposition, and susceptible to dialectical clarification and resolution. Actuality as a system of propositions in discourse can be treated as a merely possible system, conforming to the specifications of the universe of discourse as the realm of dialectic possibility. But that transformation is equivalent to the denial that the system is relevant to actuality, and that denial is equivalent to the assertion of an ultimate contradiction between actuality and possibility in discourse, which is not susceptible to dialectic resolution. Dialectic must, therefore, confine itself to possibility or be silent.

There are two further consequences of the preceding discussion, of fundamental importance. The first has to do with the interpretation of the relation of implication. The second has to do with the relation between language and logic, between the process of dialectic in the actual

occasions of human controversy and argument, and the passive potentiality of dialectic in possible discourse.

(1) Implication may be conceived in two ways, either as exhaustively contained as a relation between entities in discourse, or as a relation between entities in discourse whose significance is in its reference to an actual situation. In either case implication may be described as the relation of inclusion between a whole and its parts, or as the relation of partial exclusion between the co-ordinate parts of a whole. These relations may be formulated thus: if this, then that.[1] In the first case, there is no reference to actuality. Implication occurs only among entities in discourse; when the implication is asserted, its truth is asserted, but that truth is merely one of logical consequence, of *following from*. But in the second case, it is asserted that without the reference of implication to actuality, implications would be uncertified; that the implications exhibited in a defined and analytic whole have meaning in their reference to the whole-part relations of some actual whole. The assertion of the truth of the implications is the assertion of the truth of the equivalence between an analytic whole and an actual whole.[2]

Dialectic must interpret implication in the first of these two ways; the second interpretation would involve discourse in relation to actuality, and would impose the quality of extrinsic truth upon the relations of implication with which dialectic must deal. And this is impossible in terms of the logical and metaphysical nature of dialectic. The first interpretation of implication is, therefore, implied by the definition and postulates of dialectic as a methodology. Furthermore, the antagonism between these two interpretations of implication is really a restatement of the opposition between mere possibility and genuine actuality. The opposition can be stated in discourse, but it cannot be treated therein dialectically. This opposition must be ignored

[1] See Appendix E, for fuller discussion of the theory of implication.
[2] Vide *Possibility*, loc. cit., chap. v.

by dialectic; if either of the two theories of implication were asserted ontologically, a dogmatic metaphysics would result.

(2) Dialectic has been described empirically and logically. There is an opposition between these two descriptions which is somewhat parallel to the relation between actuality and possibility, for dialectic in its actual occasion, in its empirical occurrence in human conversation and controversy, is a limitation of dialectic as the formal structure of possible discourse. This opposition can be resolved in terms of the metaphysical hypothesis here presented with regard to the nature of possibility. It must be understood that in this view possibility as a realm of being is merely a methodological postulate, and not given any ontological status as opposed to the ontological status of actuality. The distinction, if it is to be made in discourse at all, must be made dialectically and not ontologically; experience and logic are not denied diverse ontological status; but that status need not be asserted in order for the distinction between them to be discussed dialectically.

In the first place, language is the indispensable agency of actual discourse. Whatever other empirical circumstances are relevant thereto, the elements of language indispensable to human discussion and dispute distinguish it from dialectic taken in abstraction therefrom. This is the distinction between words and statements, on the one hand, and terms and propositions, on the other. But language has two dimensions, in the denotative and the connotative reference of its elements. Words and statements refer denotatively to what have been called facts, entities which are not words or statements, and which might be designated as existent objects or events. Words and statements also refer connotatively to other words and statements. In these two dimensions language exhausts the various references or meanings of its symbols, which can thus be classified as either extrinsic or intrinsic in their functioning.

The opposition between actuality and possibility, between language and discourse, between statements and propositions, is thus contained within the nature of language itself. In so far as statements have existential import, they are statements of actuality; in so far as statements have merely linguistic import, they are expressions of possibility. In the former instance, language is insignificant for discourse, just as existential propositions in discourse itself do not have further implications in discourse as long as they are treated only in their status as existential propositions. In the latter instance, language is the agency whereby human beings may engage in discourse of a dialectical character.

Furthermore, in the dimension of its intrinsic reference, language is not only naturally dialectical, but is also thoroughly metaphorical. The earlier consideration of this matter will be recalled as having assigned all statements metaphorical instead of literal status and further as having suggested that in its connotative dimension, language was composed of infinite modes of metaphor. The analogy was then drawn between infinite modes of metaphor and Spinoza's God, having infinite attributes each of them perfect. But now the universe of discourse as a realm of possibility may be substituted in this analogy for substance or God. The universe of discourse is a determinate whole, but also unlimited in that it is an infinite class of entities, infinitely related internally to one another. Any entity, therefore, may be in infinite sets of relations: any statement may occur in infinite modes of metaphor.

Whatever be its empirical limitations, and the status of its symbolic entities as actualities or existences, language, on the side of its intrinsic reference, is capable of dialectical use in discourse, and in the unlimited resources of its metaphorical property, language satisfies the requirements of discourse as a realm of possibility.

In the second place, logic may be viewed as either

potential or actual. It is potential as the set of relations which determine the order of a class of entities; it is actual as the exhibition of these relationships. The exhibition is effected by a series of logical acts, or actualizations. Dialectic may be considered logically in both of these ways, either potentially in discourse as its formal determination, or actually whenever an incomplete series of logical acts of definition, analysis, and synthesis exhibits partial universes of discourse.

But dialectic may be actual in two senses, and in this duplicity, language and logic converge. Its empirical actuality is attained through the agency of language; its formal actuality is attained through logical activity. Logical activity, however, is merely possible if it is considered as an abstract process exhibiting relations in discourse; it is only actual when it is a psychological event, when it is an instance of human thinking. Human thinking, moreover, employs language, which in its connotative dimension is an agency for logical activity. The actuality of dialectic is, therefore, the congruence of language in its logical or discursive reference, and logic as an activity in the psychological event of human thinking. The fact that human thinking is at once an affair of language and a logical process is another expression of the same convergence.

The opposition between the description of dialectic empirically in terms of language and psychology, and the description of dialectic logically, is thus resolved, if the two descriptions are interpreted metaphysically in terms of the distinction between actuality and possibility. The opposition is incapable of such resolution, and becomes dogmatic, if the realm of language and psychological process, on the one hand, and the realm of logic, on the other, are asserted ontologically. The ontological distinction then asserted would be a distinction in fact, and not in discourse, and would transcend dialectic. But the metaphysical use of the categories of possibility and actuality is analytic and

definitive rather than ontological, and in being analytic and definitive, it is essentially a dialectical distinction that is made, and is therefore susceptible to the resolution which has been offered.

The Metaphysics of Aristotle, particularly with respect to the categories of actuality and potentiality, has often been interpreted as having ontological import.[1] The way in which Aristotle uses the categories of potentiality and actuality at least suggests another reading of *The Metaphysics*. Potentiality and actuality are terms employed in the analysis of the relations in which any item stands, and the identical item can be actual in one relation, and potential in another. The identical item cannot have diverse ontological allocation, but it can be diversely analysed.

The three descriptions of dialectic can now be brought to a conclusion in a dialectical summary. Whatever opposition there was between the empirical and the logical description can be resolved in terms of a metaphysical theory of dialectic as both actual and possible. The metaphysical system which effects the synthesis between the two partial systems is determined by a set of definitions and postulates which are taken intuitively, and this set of definitions and postulates becomes the doctrine of dialectic.

The summary is as follows: (1) Dialectic is potential in the empirical situation; that is, human thinking and human language have the potentiality of exhibiting dialectic. (2) Dialectic is potential in the logical situation; that is, the universe of discourse in its relational determinations is identical with the possibility of dialectic. It is in this sense that the universe of discourse is a realm of possibility. (3) The universe of discourse is therefore an actualization of the logical potentialities of human language and thought; and the empirical occurrence of dialectical thinking is an activity which

[1] Vide *Possibility*, chap. vii.

actualizes possible dialectic. (4) But actuality is alway a limitation of possibility. The actuality of dialectic is, therefore, incompletely inconclusive, whereas the possibility of dialectic is exhaustively inconclusive. (5) The activity of dialectic is thus at once the actualization, but differently, of the possibilities of language and of logic; it is the identity condition in which they converge: dialectic is the logical form of discourse in relation to language and to the psychological event of thinking; whereas dialectical activity is the incomplete exhibition of the formal structure of the universe of discourse.

The metaphysical doctrine of dialectic may be stated as follows:—

I. The universe of discourse is an ultimate whole, infinite but determinate.

II. The determination of the universe of discourse is the part-whole relatedness of its entities in a hierarchical order of implication.

III. Every entity in discourse is internally related to every other entity, but with varying degrees of proximateness.

IV. Dialectic is defined in potentiality as the formal structure of the universe of discourse, and in actuality as the activity which exhibits that structure with some degree of limitation.

Some theorems that have been demonstrated with regard to the nature of dialectic and the universe of discourse, follow:

1. The relation of contradiction does not obtain in the universe of discourse.

2. The universe of discourse is, therefore, ontologically a realm of possibility.

3. Dialectic is, therefore, entirely restricted to the universe of discourse.

4. Dialectic, therefore, cannot treat the relation between the ontological realms of discourse and existence.

5. Any opposition in discourse can be resolved.

6. Any dialectical resolution is partial and inconclusive.

7. Potentially dialectic is absolutely inconclusive.

8. Actually dialectic is relatively inconclusive.

9. Dialectic can realize only an intrinsic truth value and such truth value can never be finally established.

10. Any isolated proposition is neither true nor false intrinsically in discourse; and in some system, any proposition is true.

This is not an exhaustive enumeration of the theorems involved, and they are placed in what is only an approximate deductive order. They are the more important theses that have been discussed in the preceding sections.

Dialectic is now established dialectically. Its general intellectual significance must be interpreted. The intellectual attitudes of impracticality and impartiality which are obviously relevant to the nature of dialectical activity suggest in part the evaluation to be placed upon the description of thinking that has been herein developed. If such thinking goes on in human conversations, whether polemically reflective in soliloquy, or controversial and argumentative, then it becomes important to understand what human conversation amounts to, what values it is able to realize, and what values are irrelevant to it. In so far as human conversations are dialectical, they seem to assume philosophic character. The evaluation of human conversation may therefore amount to an interpretation of philosophy.

III

THE INTERPRETATION OF DIALECTIC

HUMAN conversations tend either to become abstruse or to resort to observation and inquiry in order to adjudicate the matters at issue. They become abstruse when abstract definitions are intruded, distinctions multiplied, made tenuous and subtle. It is usually the part of good social manners to forego discussion of this sort, or perhaps to turn the conversation to other themes. To carry the discussion on would require, it appears, a certain technical expertness; therefore, it should be left to the discourse of experts in their private *colloquia*, just as abstruse problems in engineering or archæology or medicine if touched upon in polite conversation are immediately suspended for the judgment of the specialists concerned. On the other hand, observation and inquiry for the purpose of determining the answers to questions raised in conversation require no less technical proficiency and training than does the drawing of distinctions in discourse.

Philosophy and science, in their historical aspect and as they are traditionally conceived, seem to be the two special techniques to which human conversations must resort eventually. The philosophers, on the one hand, are a group of experts in abstruse and subtle controversy; the scientists, on the other, have special training in the methods of inquiry and observation, and insight into the requirements of such procedure. In terms of the two tendencies of conversation, therefore, it is not difficult to distinguish between philosophy and science. If they can be so distinguished it may also be possible to interpret the nature of both philosophy and science in terms of the different tasks which human discussion seems to impose upon them.

This interpretation might be made genetically. The anthropologist and the historian might assemble evidence to support the inference that philosophy and science were in origin methods for answering questions which human conversations raised; and the development and refinement of these methods in themselves and in differentiation from one another might be traced historically. But it is clear that the marshalling of historical evidence is always highly selective, and that the evidence gathered is never unambiguous. The funded history of human thought makes possible any number of diverse interpretations of science and philosophy as intellectual enterprises. The present interpretation, therefore, will be undertaken analytically rather than genetically. History may be invoked to exemplify, but not to substantiate or prove, the general considerations encountered in this analysis.

It must be understood that to define philosophy or science in a certain way is not equivalent to asserting what philosophy or science are, or what they have been. Being arbitrary the definition cannot deny the possibility of other definitions; and being interpretative, the definition does not assert what a thing is, but rather what it means. Philosophy, in other words, need not be actually what it is defined as. To define a thing is not to say what it is, but what it is conceived to be. The conception flourishes in a universe of discourse, whereas the thing may have its being elsewhere. To fail to perceive this disparity between the possible nature of anything and its definition is to give unlimited right and power to the practice of calling names. This perception may be difficult on the level of logic and abstraction; but it is the same insight which governs our polite dealings with other men; and even children possess it when in fending verbal taunts, they recognize this difference in the rhyme about sticks and stones.

A commoner error would be to suppose that the definition of philosophy or of science indicates, not what it is,

but what it should be. Names are very often used in this manner of moral legislation over things; if they are not what they are called, at least they should be so. This error may be avoided if the process of definition be clearly understood as having both denotative and connotative force. Whatever values seem to be imposed upon the object defined are not obligatory, since the connotation of the term is admittedly established in an arbitrary manner.

The analysis which follows, then, is to be taken as a theory, and as nothing more. It is a piece of dialectic. It will attempt to treat philosophy and science in the light of human discourse—a realm that has already been described in detail. In the first place, the significance of identifying philosophy with dialectic will be considered, and philosophy will thereby be distinguished from science in so far forth. In the second place, the relation between philosophy, as the dialectical enterprise, and science, both as empirical procedure and as theory, will be considered. And in the third place, the intellectual values qualifying the diverse undertakings of philosophy and science, will be compared. Since the techniques of philosophy and science both seem related to the needs and tendencies of human conversation, the aims of human conversation may become clarified in this discussion, and the value of dialectic in the intellectual life be indicated. The conclusion may be that philosophy is incumbent upon anyone who is at all willing to enter into controversy or discussion. Dialectic may be unavoidable.

I. Philosophy and Science

Philosophy is here defined as dialectical activity in general. The locus of its occurrence is intellectual controversy or dispute. Not all human conversations actually do become philosophical; in some instances, they are terminated by reference to facts already determined, or by the attempt to determine the facts by some manner of empirical procedure; in other instances, they avoid the full obligation of the dialectic process. But in so far as dialectic emerges in the clarification and resolution of the oppositions which form the themes of conversation, philosophy occurs.

It should be pointed out that this conception of philosophy is not altogether incongruous with common usage. The examination earlier in this book of a number of typical arguments revealed what is ordinarily meant in saying of a conversation that it has become philosophical. The history of philosophy, furthermore, is certainly in part a history of intellectual controversy, —of the opposition of opinions and theories. There is nothing unusual about a conception of philosophy which merely pretends to report these two circumstances. But that conception is here carried a step further. The identification of philosophical thought with the activity of dialectic is equivalent to the assertion that only thinking which is engaged in a certain way with the phenomenon of controversy is philosophical. Philosophy thus becomes exhaustively an affair in the universe of discourse. This assertion has a number of illuminating implications for the interpretation of philosophy.

(1) Philosophy has no special subject-matter, and no special problems. The group of themes and problems which have been classified by historical accident as the

subject-matter of philosophy is not an adequate demarcation of its subject-matter. Those problems, however, are not improperly classified; they are familiar themes engendered by almost any general discussion. But the point is that they are merely the representation of a philosophical tradition rather than the precise denotative indication of the subject-matter of philosophy.

The subject-matter of philosophy is here defined as any partial universe of discourse; its problems are whatever oppositions obtain among the subordinate entities of that partial universe, or between that partial universe and some other co-ordinate with itself. With respect to this subject-matter and these problems, philosophy is simply the method of dialectic, a specific form of intellectual activity which can be applied to any partial universe of discourse suffering opposition. Philosophy thus is concerned only with possibility.

In contradistinction, the subject-matter of science in general is actuality rather than possibility. Its problems can be stated as questions concerning the nature of things. And with respect to this subject-matter and these problems, science is a method of determining by experiment, or investigation of some sort, what are the facts. Just as there are partial universes of discourse so there are partial fields of actuality, and the special sciences have as their separate subject-matters these partial fields; their special methods are devised to satisfy the requirements of inquiry in these different fields.

Philosophy and science may be viewed not as methods, but as bodies of propositions, as systems, theories or instances of knowledge. The distinctions between them can be made even more accurately in these terms.

Actuality is a class of entities, which are not statements, that is, which do not express propositions, or refer to entities in discourse. Let this class of entities be designated the first order of facts. The second order of facts is the class of entities which are statements about

the first order of facts. The propositions which these statements express form a partial universe of discourse. This universe of discourse contains the body of propositions comprising the sciences. The third order of facts is the class of entities which are statements about the second order of facts, that is, statements about statements. The propositions which these statements express form a partial universe of discourse which is the body of philosophical opinion. A scientific proposition is expressed in a statement about facts of the first order, which are usually designated existences or existential relations, entities in the field of actuality. A philosophical proposition is expressed in a statement about facts of the second order, that is, about the statements expressing propositions in some partial universe of discourse.

Science and philosophy, viewed as bodies of propositions, are thus both seen to be partial universes of discourse, but science is a universe of discourse whose subject-matter is actuality, whereas philosophy is a universe of discourse whose subject-matter is other partial universes of discourse. Science as a method is concerned with the determination and manipulation of facts which are not statements; its problems in general may be expressed in the typical question, What is the fact with regard to . . .? Philosophy as a method is concerned with rendering statements intelligible; its problems in general may be expressed in the typical questions, What does it mean to say that . . .? and What divers statements can be made about . . .?

(2) Actuality as an ontological realm is irrelevant to philosophy. Philosophy being confined by its subject-matter and method to the universe of discourse deals only with systems of possibility. Philosophy, therefore, cannot provide knowledge or achieve truth, when knowledge and truth are taken as qualifications of a proposition, or a set of propositions, in a certain relation to the actual facts. The kind of truth which is relevant to

scientific procedure, empirical truth, or the extrinsic relation of discourse to actuality, is totally irrelevant to philosophical activity. It is not interested in whether the isolated propositions which form its subject-matter are true or false. When they are taken merely as entities in discourse they can be neither true nor false in themselves. They may have either intuitive or demonstrative status in a system of propositions, and in this way be true by assumption or by implication; or they may be excluded from a system by being inconsistent therewith, but they are not proved false thereby. They are then either isolated propositions, or true propositions as postulates or theorems of some other system in opposition with the first one. Philosophy is thus concerned with truth only as a relation among propositions, as a systematic relation of propositions intrinsic in discourse. And there are no absolutely true or false propositions in the universe of philosophic discourse.

This establishes another point of distinction between philosophy and science, when philosophy is identified with dialectic. The aim that seems to be implied by the nature of empirical or scientific thinking is the discovery of the truth about things, whether the truth be taken absolutely or pragmatically. Science is interested in knowledge of some sort. Philosophical thought depends upon such knowledge only in so far as knowledge as a body of propositions provides a partial universe of discourse which is subject-matter for dialectic. But it is not concerned with its subject-matter as knowledge. Its interest is entirely in the systematic import of propositions, and in the resolution of systematic oppositions. Truth-value enters only as a by-product of the dialectic processes of analysis, synthesis, and definition. It is involved in the determination of what follows and what does not, of what may or may not be implied and demonstrated.

(3) Philosophical thinking cannot end in belief, when belief is taken to be the assertion of any proposition or

set of propositions as extrinsically true. In an even more general sense philosophy never eventuates in belief. The establishment of any system as internally true immediately generates a set of oppositions with other systems, themselves internally true; and if any of these oppositions are resolved, the resolution is not final, for new oppositions are similarly provoked by the establishment of the system effecting the synthesis. Philosophy may be concerned with the criticism of beliefs, but the attitude of impartiality which is so essential to philosophy as a dialectical activity should prevent the attribution of finality to any intellectual position philosophically achieved. In this sense, philosophy reaches no real conclusions, is incapable of being ancillary to any genuinely ultimate faiths, can be the warrant for no belief. In this sense, philosophy is clearly distinguished from theology as well as from science.[1]

Theology is often extremely dialectical in its method. This was particularly so in the case of the great Catholic theologians. But the doctrine of the Church, the truths of revelation, impose a limitation upon dialectical activity. Articles of faith introduce a dogmatic reference into dialectic, just as the " actuality " of natural science does. Canonical truth may be taken for dialectic purposes as the postulated doctrine of a system; but when that doctrine is given the status of absolute truth, instead of the conventional rôle of a set of intuitive propositions, the dialectical activity generated thereby is circumscribed and limited. The theological system is a piece of partial dialectic which is taken as final and ultimate, because its postulates are believed as ultimately true. The religious attitude that qualifies theological thought is thus seen to be incompatible with the attitude of impartiality.

Science like theology is profoundly religious. The field of actuality which it postulates as its subject-matter, it postulates necessarily rather than tentatively, and merely as the convention of a system. Actuality

[1] See Appendix G.

is the scientific canon. Science has other articles of faith. It postulates the law of contradiction, and the law of uniformity and determination. But this is dogmatic rather than dialectical postulation. It does not admit of alternatives. The ideal of science, in terms of these initial assumptions, is the achievement of an ultimately true system of knowledge. Whether or not science can ever actually realize this ideal is for the moment irrelevant. The point is that scientific method and scientific thought is motivated by a set of genuine beliefs and, in the end, hopes to achieve, or at least to approximate, a system which can be genuinely believed. The attitude of impartiality is thus seen to be incompatible with the nature of scientific activity, and it is this attitude which primarily distinguishes the philosophical enterprise.

(4) Historically philosophy itself has often been religious, either because philosophers have not been thoroughly dialectical, or because they have confused their ends with the ideals of science or theology. The last consequence of the identification of philosophy with dialectic is the utter freedom of philosophy from dogmatism.

A philosophical system or a metaphysical theory is an instance of intellectual partisanship in discourse. But to understand the nature of partisanship in controversy or argument is equivalent to the maintenance of impartiality in the given intellectual situation. A philosophical theory, therefore, must be viewed as a fragment or piece of dialectic incompletely carried out; as such it has no finality whatsoever. It may be the result of a thorough process of definition and analysis, but it is dialectically inconclusive in that the opposition which the system engenders is temporarily ignored. The philosophical theory is dialectically established if the oppositions in which it stands are merely ignored; if they are denied, that denial is equivalent to asserting the final truth of the theory in question. Such assertion would be dogmatic.

A philosophical theory, in other words, is only one-half of a conversation, a single voice in a controversy. To view it otherwise would be inconsistent with the definition of philosophy as dialectical activity, and would permit philosophy to become dogmatic. Duality is indispensable to conversation, and partisanship inseparable from controversy. And if dogmatism enters into argument, either in the form of referring to actuality, or in invoking unquestionable creeds, dialectic is immediately stopped. These three qualifying circumstances of conversation describe the nature of philosophy. It is partisanship in controversy qualified by critical impartiality toward its results.

There are certain advantages in conceiving philosophy in this way. In the first place, philosophy so defined is clearly distinguished in its methods, purposes, and subject-matter from science, on the one hand, and theology, on the other. Precise differentiation is the first pre-requisite of a good definition. In the second place, not only is the character of philosophical thinking described by identifying it with the dialectical acts of definition, analysis, and synthesis, and the processes of clarification, resolution, and translation, but dialectic itself is evaluated by that identification. It assumes importance as the essential technique of philosophy, and as its fundamental intellectual attitude of impartiality.

And in the third place, the spectacle of the history of philosophy may be viewed in a way that makes it a more intelligent phenomenon than it otherwise would appear to be. The history of philosophy is a history of frustration, if philosophy be conceived as comparable or similar to science. It is the record of the conflict of contradictory systems, each of them claiming dogmatic finality and ultimate truth, a claim made apparently absurd by the plurality of the claimants. But if philosophy be nothing more than the development of systems of thought, and the resolution of their opposi-

tions, and if it make no claim to extrinsic truth or conclusiveness, then it is quite properly the record of unending controversy. The history of philosophy is a sustained conversation, prolonged through millennia; it has been continuously dialectical or controversial, even though this quality has been masked by the dogmatic attitude that for the most part philosophers have maintained toward their pronouncements.

The critics of philosophy have always supported their derogations by pointing to its history. Philosophy has not progressed as science has. Philosophy has not solved the old problems, and gone on to new ones; its problems are persistent. Philosophy has added nothing to the stock of knowledge; it is obfuscation, futility, and frustration.

Such depreciation is justified if philosophy pretends to satisfy the ends imputed to it by its critics. Traditionally, philosophers have made the mistake of misconceiving their task, their subject-matter, and their instrument; the criticism in so far forth is deserved. But that is equivalent to saying that these philosophers have been dogmatic rather than dialectical. Progress is irrelevant to philosophy in the sense in which progress occurs in the natural sciences. Philosophy never solves its problems, for it has no specific problems to solve. Whatever appearance of persistent problems there has been in the history of philosophy is due to the fact that in the tradition of European thought, there has been to some degree an intellectual continuity, and a funded vocabulary of philosophical discourse. Whatever issues that philosophic tradition has repeatedly faced, it has partially resolved on many different occasions, in many different ways; but the resolution in each instance has been temporary, and entirely relative to the intellectual situation in which it occurred. Philosophy has not added to the stock of knowledge, nor culminated in any fundamental truths or fixed beliefs; if its nature were essentially dialectical, it could not do otherwise.

The futility that is ascribed to it, is definitely a proper attribute of the philosophical enterprise; it must be thoroughly impractical if it is to be dialectical, and in terms of the pragmatic values which the natural sciences have come to satisfy, it is no wonder that philosophy should be denounced as futile. But that denunciation, on the other hand, is somewhat of a corroboration of the identification of philosophy with dialectic. Finally, philosophy ends, not only in futility but frustration; it arrives nowhere even intellectually. But that again is a proper attribute of philosophy as dialectic. It must never reach a conclusion, a final resolution, an ultimate theory. The fact that the history of philosophy has been a chronicle of intellectual frustration further illustrates that it has been a career of dialectic. Opposition can never be totally removed from the universe of discourse in which philosophical controversy occurs.

The conception of philosophy as dialectic may explain certain of the attributes of the historical panorama, but it does not alter the standards of value which are invoked by the usual criticisms of philosophy. In one sense, it makes the criticism irrelevant, since philosophy so conceived does not pretend to satisfy the pragmatic or dogmatic values referred to by its critics. Nevertheless, the justification of philosophy can be made positively in terms of the set of intellectual values which it does attempt to satisfy. This will be done later.

Some inspection of the history of philosophy may discover the exemplifications of the foregoing thesis. Philosophy has been obviously controversial. The writings of philosophers in any generation have been stimulated by the opinions and theories of their predecessors. Opinion has provoked opinion, and belief antagonized belief. Philosophical thought has derived its greatest impetus not from commerce with the world, but from the contact of one philosopher with another. Opposition has been the fertile seed of philosophical

production. The formula that the universe of philosophical discourse is expressed by statements made upon statements, for the most part seems to be corroborated.

What might be more apparently a history of dialectic has been masked, however, by the confusion of attitudes that has pervaded the history of philosophic thought. The dogmatic manner in which most philosophic theories have been presented, the suggestion that systems have been in absolute contradiction rather than merely in opposition, the absence of distinction between what was pre-scientific [1] speculation and what was theoretical argument with the resultant confusion of empirical and discursive references, the lack of clarity with regard to the sense in which philosophical thinking might satisfy a truth-value, and the senses in which truth and actuality were irrelevant to philosophy—these factors have made the historical spectacle so difficult to interpret, and have made philosophy so dubious and nondescript an undertaking. By deleting from the history of philosophy all of the passages in which philosophers have indulged in the imitation of science, most of the second book of Locke's *Essay*, for example, which is pre-scientific psychology, or Descartes's cosmogeny and "natural philosophy" which is pre-scientific physics, and by effacing all evidences of dogmatic assertion and denial from the more theoretical portions, the dialectical fabric of the history of philosophy could be analysed into strands of a prolonged argument which has not, and cannot, reach a conclusion in any of its loose ends or unravelling threads.

If philosophers have been consciously dialectical at all, they have been so in method rather than in attitude.

[1] "Pre-scientific speculation" is here used to designate reflection or theorizing upon scientific subject-matter prior to the empirical investigation of the relevant field of actuality. It is arm-chair speculation about the phenomena, and may have value and certain merits proper to it, but it does not satisfy the requirements either of empirical science or of philosophy as dialectic. It is what Santayana has called "rhetorical physics" and "literary psychology".

Their manner of debate, their technique of definition and analysis, and the way in which philosophers have comprehended or refuted their opponents by processes of translation and absorption, has been dialectical enough. The defect has been one of incompleteness, due usually to a corrupting dogmatism of one sort or another. In other words, many philosophers have been dialecticians somewhat in practice without understanding the theoretical implications of that practice, the intellectual attitudes it involves, and the ends it is able to serve. For this reason philosophical theories that have been the work of dialectical processes, have been advanced as ultimate rather than as partial systems in discourse; and the plurality of such ultimate systems has presented the picture of irremediable contradiction rather than has suggested the dialectical situation of oppositions in discourse which further dialectic might resolve.

The philosophical systems of Descartes and Leibnitz, for instance, are dialectical in their execution, but dogmatic in their attitude, both in their scientific and their religious prejudices. The theologians of the twelfth and thirteenth centuries were consummate masters of the technique herein described, but they exercised it within the bounds of revealed truth, a dogmatic doctrine with which all other propositions must be made consistent, or else totally excluded from the system of theology as contradictory and therefore untrue. In contemporary thought there is no intellectual vigour except it be in pragmatism, and this both in attitude and practice is a complete denial of dialectic, and, therefore, of philosophy according to the conception here developed. The metaphysical systems of Aristotle, Spinoza, and Kant, are marvellous works of dialectic, but they are partial systems; they are like single voices that have not been harmonized with the polemic which they provoke. The philosophy of Hegel comes nearest to the conscious expression of dialectic as a method and

as a theory; its only flaw, perhaps, is that it terminates in the Absolute Idea in which all oppositions are resolved. It surrenders the inconclusiveness of the dialectic process for an ultimate dogmatism.

The only figure in the history of thought that may be construed as fully understanding the nature of philosophy as dialectic is Plato. The dialogues form a dramatic rendering of human conversation as the locus of philosophical thought. Therein the philosopher and the dialectician are identified. The theme of a Platonic dialogue is an opposition of opinions, an opposition that usually arises in the course of conversation. The opposition is clarified, and perhaps, resolved, only to suffer the facing of another opposition, and so on. There is no ultimate resolution of the intellectual controversy that forms the dialogue; many doctrines are proposed; their meanings are made clear; but none are proved in the dogmatic manner. In the light of the present discussion, there is no philosophy in the dialogues of Plato outside of the dialectic that is therein contained. In this sense, Plato is the first and, unfortunately, the last philosopher perfectly to understand the nature of his proper task and the traits of his technique.[1]

Credit must be given Hegel, however, for the explicit formulation of the logical structure of dialectic. But in the first place, that logical structure is immanent in the actual as its form and process; and in the second place, it is conceived as a finite hierarchy. In this Hegel fails to assume the dialectical attitude toward the dialectical process itself—the philosophical mood of impartiality which is able to witness the inconclusiveness of any theoretical enterprise. Hegel exemplifies the failure of a dialectic which avoids frustration finally, and in that dogmatic aversion he is imperfectly philosophical. He is one of the earliest modern historians of philosophy, and probably the first who ever attempted to write that history as a sort of dialectical progress.

[1] See Appendix F, for material relevant to this interpretation of Plato.

In a series of triadic steps, an argument or thesis, its negation by some other argument or thesis, and the resolution of the argument in some third argument or thesis, the history of opinion is developed as a pyramidal structure of trilogies. If this architectural conception is the beauty of Hegel's method, it is also its defeat, for the perfect pyramid must have some crowning stone. There must be some one category which resolves the difficulties engendered by all others, some last resolution of some last antithesis. Whether or not the Absolute Idea is the source of dialectical peace need not be debated here; it is rather the attitude which such an ultimate termination expresses that is here being contrasted with the attitude of regarding dialectic as interminable, which the present exposition has stressed as so essential to philosophy.

This contrast can be made vivid by substituting Plato for Hegel. Suppose Plato had approached the task which Hegel undertook. The supposition does not demand too much, for recent commentary shows that the dialogues deal for the most part with contemporary opinions which Plato is submitting to criticism, opinions which, it hardly need be said, were not his own. The method of criticism, which he himself called dialectic, was one of taking an opinion as a premise and explicating it.[1] Contrary opinions are suggested, and the dialogue proceeds by the alternative examination of the grounds and implications of several hypotheses. In most cases the dialogue ends inconclusively. Plato makes no attempt at synthesizing the errors of his predecessors into any final truth of his own. He allows oppositions to stand unregenerate, and among them are the doctrines which the tradition now calls Plato's own. The conversation is left, as it is begun, without anything more being known or believed in, but with the possible meanings of many things made clearer. The talkers meet by accident, find their themes in the statements of each

[1] See Appendix F.

other, and leave to keep appointment or to return to bath or dinner. They are enriched philosophically by what they experience; but they are not in possession of greater knowledge or more truth, nor is it likely that they ever believe the last remarks which Socrates has made. They have been enriched by the philosophical exercise of their own minds. They have been philosophers in that they argued, not in order to believe one thing rather than another, but merely for the experience of dialectic itself.

In the light of the dialogues, therefore, it is not difficult to imagine how Plato would write the history of philosophy were he to attempt it to-day. It would be a dialectical account without the Hegelian superstructure; in a sense, it would not be history at all, for Plato would have exhibited the dialectic of historically recorded opinion without the irrelevant apparatus of a logical career in time. Such a book might be called a *Summa Dialectica*.[1]

The present volume serves its purpose if it is the prolegomenon to the *Summa Dialectica* that should be written. In that future work what is here but the barest suggestion of the interpretation of historical philosophy in terms of dialectic would be fulfilled in detail. Though historical philosophies might comprise its subject-matter, the treatment would not be historical. It would be concerned with theories rather than thinkers. It would be strictly dialectical in form, probably availing itself of the literary advantages of the dialogue rather than the usual devices of the treatise or of geometrical procedure. The *Summa Dialectica* would be in part the exhibition of the arguments that are involved in the theories, systems, and philosophies that have been reported or recorded. More than that it would necessarily endeavour to carry the dialectical process beyond the point at which one dogmatic attitude or another had limited it historically. In this sense it would be a genuinely

[1] Vide *Possibility*, chap. ix.

creative work, as well as being the critical application of dialectic to a certain field of subject-matter. But it would be a summation only by exemplification ; it could not, if it were thoroughly dialectical, pretend to summarize all the polemic that has been, or all the controversy that might be. The method of exemplification to be employed in such an undertaking would consist in drawing the line of any argument as the serial development of oppositions between partial doctrines, and of the partial resolutions of these oppositions. The line, of course, being endlessly composed in the same way, could not be exhaustively revealed in the exposition of the controversy. But two things would have been accomplished. In the first place, all of the lines of argument tangent to or intersecting[1] with the given line would have been indicated ; and in the second place, the given line would have been sufficiently defined, in the same way in which an infinite series is defined by the description of a proper part, and by the method of exhaustion toward a limit. The same definitive treatment could then be given all of the other lines of dialectic that were generated in the first instance ; and they in turn would be productive of other loci of argument, tangential or intersecting. What ultimate geometrical figure the *Summa Dialectica* would conform to is difficult to determine prior to the undertaking ; perhaps it would be an infinite sphere whose area was a plenum of limitless lines each of which was tangential to or intersecting with every other line at some point in its extent. It might be imagined as a boundless light sphere each point of which was a centre generating radii of light, each ray a focus for all the others. If such it were, then the *Summa Dialectica* as a whole could be nothing more than the partial and incomplete exposition of the field of dialectic by the method of exhibiting a proper part and approaching the limit of its hierarchical development.

[1] Intersection has already been used to designate common identity conditions or equivalence ; tangency similarly expresses the trait of intervalence between systems.

The values of the volume here proposed certainly cannot be either stated or judged in advance of the attempt; its execution may or may not be possible in terms of the preliminary plan. But whatever other hopes the achievement of a *Summa Dialectica* might fulfill, it has this double promise: First, that of stating some of the fundamental intellectual concerns that the history of philosophy comprises, clarifying the oppositions, indicating some of their possible resolutions, and, perhaps most important of all, effecting a greater or less degree of translation between one system or theory and another. This would enhance the intelligibility of philosophical controversy, probably reduce what seems to be a multiplicity of theoretical differences and disagreements to the simplest terms in which the dialectic might be reconstructed; and in this way historical philosophy may be made to contribute to the enlightenment of the philosophical processes of the present and the future, the continued carrying on of philosophy in controversial discussion, whether by professional philosophers or not.

Secondly, the subject-matter of a *Summa Dialectica* would include not only the theoretical and systematic writings that have been traditionally classified as philosophy; but the scientific universe of discourse as well: i.e. the body of scientific propositions, organized as theoretical systems. Science, in other words, would be submitted to dialectic, and in such a treatment, scientific discourse would have the status of merely possible and necessarily partial theorizing. To understand what is implied in this philosophic programme will require a brief analysis of the subject-matter of the projected *Summa.*

2. The Subject-matter of a *Summa Dialectica*

The universe of scientific discourse may be described as the body of propositions that purport to be statements of fact, or propositions about actuality. Scientific discourse is part of a more comprehensive universe of discourse which constitutes the subject-matter of dialectic since it is considerate of any possible proposition. But the differentiating trait of a scientific proposition among all other possible items in discourse is its assertion of fact, and its claim to more than possible truth through being related extrinsically to things not in discourse, to reality or actuality, substance or existence. This assertiveness and this claim are clearly incompatible with dialectic procedure. Therefore, it becomes necessary to explain in what manner scientific discourse can be regarded as subject-matter for dialectic; and it is only scientific discourse which requires this explanation. Whatever other partial fields of subject-matter are embraced by a *Summa Dialectica* are naturally congenial to such inclusion and treatment, by reason of their being entirely systems of discourse, merely theoretical, merely possible.

The universe of scientific discourse is itself subdivided into many partial fields. There are theoretical sciences, on the one hand, such as theology, ontology, cosmology, epistemology, metaphysics, mathematics, logic, ethics, æsthetics. These technical terms designate what have been traditionally considered as branches of philosophy, but if philosophy is dialectic, these branches are more properly classified as theoretical sciences, since in every instance they have the two dogmatic qualities of science, the assertion of truth, and relation to actuality. They are

different sciences in so far as they have different fields of subject-matter; they are theoretical in so far as their method is entirely a process in discourse. Their anomalous character would be revealed by calling them dialectical sciences. Mathematics and logic may be thoroughly dialectical if no ontological assertion is attached to their respective doctrines. They would then be merely possible systems, instead of sciences.

On the other hand, there are the empirical sciences, such as the physical, the biological, and the social sciences, different because of the distinction in their subject-matters and their methods, but alike in being sciences because of their dogmatic claims, and alike in being empirical because of the common trait in their diverse methods of manipulating or dealing with actual events or existent objects. It is this trait which distinguishes them from the group of theoretical sciences. But the empirical sciences are not entirely inductive, whether in the experimental, or the statistical, or the heuristic fashion. The physical sciences, for example, to the extent to which they achieve mathematical formulation, are deductive in method and highly theoretical, and all of the other empirical sciences attempt to approach as an ideal the theoretical structure of mechanics, terrestrial and celestial. To the degree that they are deductive and become theoretical, the empirical sciences are dialectically articulate. The social sciences are still in the stage of baby-talk, but even they have made some attempt at theoretical clarity.

This analysis might be generalized in the statement that in so far as any science achieves theoretical form, its universe of discourse has dialectical structure. In the case of the empirical sciences, their theoretical or dialectical properties are not incompatible with their experimental or otherwise empirical methods. The business of prediction and verification, and the method of multiple working hypotheses, are in part instances of dialectical procedure.

In other words, any science considered merely as a theory, as a system in discourse, is an instance of dialectical elaboration. But the dialectic is incomplete if the system is not submitted to the oppositions which it inevitably provokes. However, in the light of such opposition, any system becomes merely partial. Its status is that of possibility, and any further dialectical consideration of it must disregard whatever claims the system has to be related to actuality, to be extrinsically true. But it is precisely this claim which distinguishes any partial universe of discourse as scientific. This holds equally for the theoretical and the empirical sciences.

In order, then, for the sciences to become in part subject-matter for the proposed *Summa Dialectica*, they may be regarded in one of two ways. The first has been suggested by Mr Scott Buchanan in his treatise on *Possibility*.[1] Briefly stated, a science may be regarded as an order of parameters. Its structure is systematic, and its function analytic ; as a system it is analytic, and that analysis is relevant to some actual whole. A science is the analytic equivalent of some actual whole. But analysis is always an intellectual affair ; its status is that of a possibility. Any science is merely one of many possible analyses of a given actual whole. This treatment does not abrogate the truth-claim of a science, but it reinterprets the import of that truth-claim, and renders empirical science comparable to myths and to any purely theoretical system. In their intellectual forms, they are all equally possible systems, analytic of some actual whole, and equivalent to one another in proportion as they are true ; that is, equivalent to the actual whole they analyse. The fuller statement of this interpretation of science will be found in Mr Buchanan's book.

The second way of regarding the sciences is in accordance with the theory of dialectic herein developed. Any science may be taken in its theoretical aspect entirely, and in this aspect it is merely a discursive system, and

[1] Chapter ix.

can be treated entirely as an affair in the universe of discourse. Its truth is determined intrinsically as in the case of any other system or theory. Its significance is determined, not in relation to reality or actuality, but in relation to the systematic oppositions which the definition of its doctrine generates. Regarded in this way, any partial universe of scientific discourse is thoroughly susceptible to dialectic; but it must be admitted that the partial universe of discourse so treated no longer possesses any of the distinctive traits of a science. It is pure theory; it is an intellectual possibility.

There is agreement between Mr Buchanan's parametric formulation and the theory of dialectic in their major clauses, but not with respect to the relation of the analytic to the actual whole which the former interpretation postulates. This point of disagreement suggests a dialectical issue between the two theories that cannot adequately be undertaken here; in part it has been touched upon in the earlier discussion of the relation between discourse and actuality. The further elaboration of this opposition is a theme for the *Summa Dialectica* itself.

It should now be clear in what manner the history of philosophy becomes subject-matter for dialectic. The history of philosophy is the documentary record of the development of the theoretical sciences. By depriving them of any dogmatic property they may possess, philosophy in its rôle of dialectic can incorporate them into the matrix of a *Summa Dialectica*. Philosophy can deal similarly with the empirical sciences. The implication is that philosophy is a method for dealing with any partial universe of discourse[1]; it is a method determined by the nature of discourse in general. And that method is dialectic.

The relation between philosophy as a method and scientific discourse as a fragment of its subject-matter may be determined by the foregoing analysis. But there

[1] See Appendix G.

is still a conflict between philosophy as a method and science as a method, a conflict between dialectic and empiricism. This opposition may be stated as an opposition of intellectual values, and in the clarification of this opposition, the last step will be taken in explaining the significance of dialectic by defining the specific intellectual values it is capable of satisfying.

3. The Dialectical Attitude

Dialectic is confined entirely to the universe of discourse: its subject-matter is discourse and its own movement is expressed in propositions. It is a method of understanding and of criticism.

The method of empirical science can be generally described as a method of inquiry and investigation. It is concerned with the discovery and the determination of facts of the first order, events and existences, and their actual relationships. Scientific theory may be resident in discourse, but its method, in so far as it is empirical and inductive, is a movement among things; and it is through the exercise of its method that scientific theory claims truth and relevance to actuality.

In terms of its method and its claim, science represents an intellectual attitude profoundly in contrast with the attitude of dialectic. The empirical attitude is an emphasis upon two values, the dogmatic value of belief and the pragmatic value of action. Scientific thinking satisfies these two values: in its claim to extrinsic and determinate truth, it may result in belief; through its dealing with entities in the realm of action, it may eventuate in conduct. In other words, science is capable of application.

On the other hand, the dialectic attitude is an emphasis upon the values of impartiality and impracticality, of unbelief and inaction. It is a kind of thinking which satisfies these two values: in the essential inconclusiveness of its process, it avoids ever resting in belief, or in the assertion of truth; through its utter restriction to the universe of discourse, and its disregard for whatever reference discourse may have toward actuality, it is barren

of any practical issue. It can make no difference in the way of conduct.[1]

The values of empiricism are not confined to the practical life. They are genuinely intellectual values, in that they are determinative of a certain kind of thinking. According to empiricism the ascertainment of truths, the establishment of beliefs and the regulation of human behaviour in accordance therewith, are the important aims of thinking. Dialectic does not deny these values, it simply proposes that there are other intellectual values than these and that there is a kind of thinking other than empirical or scientific thinking which is able to satisfy such values. The values of dialectic, furthermore, are not confined to the theoretical life. They have a certain practical import in so far as they impose upon thinking the awareness of its irrelevance to practical affairs, to life and conduct. Action is utterly, brutally pragmatic; it is never an affair for dialectic except in retrospect, and then in reflection it becomes merely ethical theory. Dialectical thinking may be somewhat related to empirical procedure in the sense that deductive and analytic processes are involved in any instance of complicated empirical discovery or research. But dialectical and empirical thinking are clearly poles apart in the values which they pretend to satisfy. It is the fundamental polarity of intellectual activity in general: justice to the fullness of the concrete, on the one hand, and to abstract, universal considerations on the other. Scientific thinking attempts to fulfill both of these alternative aims, and is thereby in the difficulty of facing an ultimate opposition; whereas dialectical thinking abolishes the opposition as one which is irrelevant to its nature. Dialectic admits that it is unable to deal with the fullness of the concrete; it might even go

[1] The consideration of casuistry in general or sophistry (cf. above, pp. 31 ff. and footnote), suggests a comment upon the tendency of empiricism to place high value on the mere accumulation of facts. Were *all* the facts collected, assorted, and submitted to an omniscient intelligence, there would still be the task of understanding them; the possibility of multiple interpretation would still remain.

further, and assert that no thinking is capable of dealing with the fullness of the concrete. That, in a sense, is the first step in the criticism of science.

Human conversation, it was seen, if it is controversial or argumentative tends either toward dialectic or toward investigation. The intellectual values of both empiricism and dialectic are therefore relevant to the situation in which conversation occurs over a disputed theme or a point of contention. It may be possible to settle the issue by reference to the facts, and this will involve recourse to the processes of empirical thought, experiment, investigation, actual inquiry of one sort or another. But recourse to empiricism is equivalent to the surrender of conversation. Argument is forsaken for investigation. Scientific thinking is not conversational even though it have crucial bearings on issues so developed. The other alternative is recourse to a kind of thinking which is intrinsically conversational, a kind of thinking which deals with the disagreements that arise in human discourse by treating them as intellectual oppositions, capable of some clarification and some resolution in further discourse.

It is not important to decide between these two alternatives in general; that depends upon the temperaments of the individuals engaging in controversy, and upon the character of the particular theme in any occasion of dispute. Some minds are incapable of assuming the intellectual attitudes of impracticality and impartiality required for the dialectical pursuit; and to some the ends of such procedure are valueless. Controversy very often turns out to be argument about the facts, and when that is discovered, argument should be postponed for the sake of inquiry. The meanings of the facts, whatever they are, may be determined by conversation, but conversation can never determine what is a fact and what is not. Only such issues as can be interpreted as oppositions in discourse, rather than as dispute about the facts, are the proper themes of intellectual conversation.

It is important, therefore, to distinguish between these alternatives in conversation. Conversation should either be given up when it becomes inefficacious in any particular instance, or if it turns to dialectic as the method for dealing with its difficulties, then it must observe the conditions which are thereby imposed upon it. It has been the purpose of this book to define those conditions in the description of dialectic as a method. Conversation, furthermore, if it choose the dialectical way of dealing with its controversial issues, must submit itself to the intellectual values which that way of thinking is able to satisfy. These are fundamentally different from the values immanent in scientific or empirical thinking. The implications of that difference have now been summarized. It remains only to state very generally the human value and significance of philosophy if its locus be in conversation, and if its method and attitudes be those of dialectic.

If truth and practical consequences be the ends of scientific thinking, philosophy may be regarded in contrast as the source of intellectual freedom. It may be offered that there are three stages in the liberation of human thought, first the stage of universal belief, secondly, the introduction of rational criteria for the determination of the validity of belief, and, thirdly, the independence of thinking from any belief whatsoever. The second is the stage of scientific and dogmatic criticism ; the third is the achievement of the philosophic attitude. The aim of philosophy might almost be described as the attempt to achieve an empty mind, a mind free from any intellectual prepossessions, and unhampered by one belief or another. So conceived, philosophy is the process of entertaining any idea as merely possible, and of examining its significance impartially. It has been said that bad poetry is usually the product of sincere feelings. It might be similarly said of conversation that it is bad philosophically when it is motivated by sincere convictions.

Philosophy, however, is not only the instrument of intellectual freedom. It is an experience of the comic spirit, for those who enjoy it in the dialectical pursuit of conversation. "The essential tragedy of human thought," it has been written, is "its unavoidable task and its unescapable frustration". But to the philosopher the inevitable frustration of dialectic is not a tragedy; its inconclusiveness is the symbol of infinite possibility. The limitation which actuality imposes upon thought is tragic; but the undertaking of thought as an adventure in the realm of possibility is the essence of the comic spirit in the intellectual life. To be thoroughly a dialectician in conversation or reflection is to be a philosopher engaging in the partisanships of controversy, but never losing impartiality toward all relevant theoretical considerations.

Philosophy is the emancipation of the intellect and the cultivation of the comic spirit. It may also be a way of becoming sensitive to life, a way of becoming sensitive to the differences and oppositions which pervade the human world because it is wrought not only of brute things but with meanings in discourse.

APPENDICES

Appendix A

The word " doctrine " is used throughout the logical and metaphysical expositions to designate any group of propositions which are compendant and have implications. Since the body of propositions which form a system are compendant and have implications, a " system " is herein sometimes referred to as a " doctrine ". But more frequently " doctrine " denotes the set of assumed or intuitive propositions, the postulates and definitions, as distinct from the demonstrative propositions, or theorems. It is in this sense that the phrase, " the doctrine of the system," is used; and unless otherwise indicated, " doctrine " means the doctrine of a system. This usage differs arbitrarily from the significance attached to the word in mathematical logic, wherein " doctrine " and " system " are used interchangeably.

Appendix B

The phrase " analytic whole " is used throughout the text, except where otherwise specified, to refer to any set of propositions established by definition as a system, and articulated deductively by analysis. An analytic whole is thus always a partial whole, and as a partial whole, a system is always analytic. This definition of " analytic whole " determines the meanings of the words " equivalence " and " intervalence ". Systems are *equivalent* when they are equally satisfactory values in substitution for the variables of a common system-function; i.e. when they are mutually translatable point by point. Systems are *intervalent* when they are

included partially in some supraordinate system; i.e. when they are synthesized. Herein, then, is the distinction between the translation of system, and the resolution of their effective opposition. Resolution is a sub-case of translation; it is incomplete or partial translation. Perfect translation, the limiting case, is an expression of identity.

On page 211 of the text, Mr. Buchanan's use of "analytic whole" is discussed. In that usage an analytic whole is also a system, but it is "analytic" by reason of its *analytic equivalence* to some actual whole. Intervalence becomes the relation between two systems, or analytic wholes, which are more or less equivalent to some actual whole.

The difference between these two usages for the same set of terms is parallel to the opposition between two theories of implication developed in the text. (See page 211 f.)

Appendix C

The discussion of the law of contradiction in relation to dialectic procedure concluded with the thesis that contradictions do not obtain within or between systems when they are treated dialectically (see pp. 187–99). What, then, is to be the operative criterion for the compatibility of two or more postulates of a given doctrine?

The postulates of doctrine *Alpha* may be considered as the theorems of supraordinate system *Beta*. If the given postulates are demonstrated by the doctrine of system *Beta*, they are thereby not only proved to be consistent theorems in *Beta*, but they are proved also to be compatible as postulates of the doctrine *Alpha*. But this demonstration of their compatibility depends upon the consistency of the doctrine *Beta*, whose postulates must in turn be proved compatible as theorems consistently implied in the supraordinate system *Gamma*. And this obviously continues into an infinite regressus.

The compatibility of postulates is thus everywhere reduced to the consistency of theorems, and this is equivalent to maintaining that there is no final test for the compatibility of postulates in dialectical procedure. This thesis, moreover, is eminently appropriate to the logical theory of dialectic. The compatibility of any set of postulates is as relative an affair as the validity of any system; and the test for the one quite properly assumes the other, and vice versa.

Appendix D

The relationship between a proposition (an entity in discourse) and a fact (a non-discursive entity) is throughout the present exposition described as a relationship which transcends discourse, and is recalcitrant and resistant thereto. The denoted relationship, in other words, cannot be stated in discourse. This seems to be precisely what Bertrand Russell refers to as "the most fundamental thesis of Mr. Wittgenstein's theory", in his *Introduction* to the *Tractatus Logico-Philosophicus*: "That which has to be in common between the sentence and the fact cannot, so he (Wittgenstein) contends, be itself in turn *said* in language. It can, in his phraseology, only be *shown*, not said, for whatever we may say will still need to have the same structure." It is with this insight that Wittgenstein concludes in Proposition 7: "Whereof one cannot speak, thereof one must be silent."

Appendix E

Two types of implicative relation have been enunciated in this book. One may be called *analytic implication*; it is the relation between a whole and any of its parts, and this relation is not reciprocal. The other type of implicative relation may be called *definitive implication*; it is the relation between co-ordinate elements, between one part and its others, or opposites. Definitive implication is reciprocal.

It is patent that implication in dialectic has not the same meaning that it has in most treatises on formal or mathematical logic. And it is almost crucial for an understanding of the doctrine of this book that the distinction in meaning be made clear. A brief analysis of implication in the more usual sense will help to illustrate this distinction. Whitehead and Russell in the *Introduction* to the *Principia Mathematica* give a general formulation of their conception of implication. It will be remembered that the four primitive ideas for them are disjunction, contradiction, conjunction, and implication. They proceed to derive the latter two from the former two, remarking, however, that the process could, with greater difficulty, be reversed. As it is, implication is defined in terms of disjunction and contradiction. Thus the proposition p implies the proposition q if not-p or q is true. The *Principia* denominates this as the general form of the "if-then" proposition. The disjunctive function is expressed in one proposition (viz. not-p) and another (viz. q) being true. But the "reason" why *q is true* and hence why *p implies q* lies in the idea of contradiction. Not-p cannot be true, if p is true; the law of contradiction holds that if a proposition p is true, its contradictory not-p is false. This is *material implication.* The *strict implication* of Professor Lewis of Harvard, though different in technical detail, similarly rests in the law of contradiction.

Three questions immediately arise: (1) What is the resolution of the opposition between implication depending upon contradiction (*material* or *strict*) and implication (*analytic* or *definitive*) as used in this book? (2) What is the logical status of *true*? (3) What considerations are logically pertinent to the discovery of truth, i.e. *demonstration*?

It will be seen that any solution of the first will be in terms of the relation of exclusion; the other two involve the relation of inclusion.

Dialectically considered, the system, or partial universe

of discourse, which effects a partial resolution of the opposition between the system in which *material implication* is an element, and some *other* system, will be superior to the systems in opposition. It will be remembered that contradiction does not obtain between systems; and further that, given a proposition, its "formal contradictory", as one of its indefinite others, is simply excluded from the system in which it (the given proposition) is. The "contradictory" proposition is related, like any of the *others*, to the given proposition by partial exclusion: the one implies the other definitively. Systems are related in the same way, by partial exclusion and *definitive implication*. And the system which "contradicts" the system in which *material implication* is asserted, will, in dialectical terms, be simply an *other* of that system, and related to it by exclusion. The opposition engendered between the two will be capable of resolution in some supraordinate system. In the same way the proposition which "contradicts" the proposition stating *material implication* is an excluded *other*, and the opposition thus engendered is capable of similar partial resolution. The exclusion, it will be remembered, is partial, and the resolution is likewise partial.

The proposition in which the resolution is effected will be discovered by synthesis in terms of common identity conditions. In the proposition of *material implication*, the element "p implies q" presupposes a relation between p and q. The disjunctive element presupposes a relation between not-p and q. Likewise contradiction presupposes a relation between p and not-p. In any proposition which is the "contradictory" of *material implication*, if p, q, and not-p are involved, there will be common presuppositions. Therefore the supraordinate proposition in which the opposition is partially resolved, and which is presupposed by both opposed subordinate propositions, will at least state: *there is a relation between* p *and* q.

It is now necessary to inspect the formula: "If this,

then that," which is the alternative form for the proposition: "*p* implies *q*." This, expanded, states: "if this is true, then that is true." This is also the statement of what has here been called *analytic implication*. It will be remembered that in the slight summary of *material implication* no meaning was given to *true*. Nor do Russell and Whitehead attempt to give this treatment in their formulation. At this point, however, the dialectical status of "true" must be considered in order that the dialectical statement of implication be made perfectly clear. "True" or "validly following from" is a propositional function and the constant which is admitted depends upon the system to which it is relevant. This merely restates a proposition of this book, that the meaning of an element in discourse (in this case "true") depends upon the context in which it appears. In other words, dialectically considered, an element (being a symbol) has no meaning in isolation. This is particularly difficult in the case of "true", for two reasons. In the first place, "true" usually has an extra-logical import which is connected with "experience". It is because of the imperfection of human discourse that this extra-logical import becomes an effective factor in human thought. The practise of dialectic, on the other hand, attempts in so far as it is possible to eliminate this psychological conditioning. Considered logically, "true" has a meaning in a context which it may be the purpose of dialectic to discover. But this first difficulty only enhances the second. Stated briefly, it is that the rule of demonstration must in any given system (even in a logical analysis of dialectic) have intuitive status; i.e., be postulated in order to avoid an infinite regress. In other words, the demonstration of the rule of demonstration cannot occur within the system in which that rule of demonstration is regulative. And this very condition would seem to give the rule of demonstration an extra-logical significance which might easily become fraught with epistemological antinomies. A logical

analysis of dialectic, if it is to be thorough, must deal with this situation.

Further consideration will disclose that in purely logical terms this apparent difficulty is reconciled within the limits stated. "True" or "validly following from" has been designated as a propositional function. It will be noted that it is then equivalent to the rule of demonstration, or in terms of this text, analytic implication. The rule of demonstration for any system will be the constant element which for that system is admitted in the propositional function "true" or "validly following from". But it has been said that this must be separate from the system. It will be remembered, however, that two relations are possible; exclusion or inclusion. Since it is obviously not an *other*, it cannot be related by exclusion. And since inclusion is not reciprocal, the rule of demonstration must reside in a system supraordinate to the system of which it is regulative. Actual demonstration in that system, however, is dependent upon a rule of demonstration which is likewise resident in a still supraordinate system. This develops the structure in which logically the infinite regress of the demonstration of *any* rule of demonstration subsists. And it is because of this that any actual analysis of dialectic must be forced to postulate a rule of demonstration, of analytic implication, which is separate from, and presupposed by, that system. Finally, it must be borne in mind that in precisely the same way that no term or proposition has dialectical meaning apart from its context, no system has meaning apart from its context of supraordinate and co-ordinate systems.

It is evident, then, (1) that *material implication*, depending upon disjunction and contradiction, must be demonstrated by a rule of implication whose ground is supraordinate; and (2) that the term "contradiction" has a particular meaning depending upon the context in which it is. In this text it is translated as *opposition* or *otherness*, and that translation is, of course, relative to the context. Neither term has an extra-logical validity apart from

its context. More important, it becomes clear that *material implication* is only one method of demonstration; and that conclusions may be arrived at validly through other demonstrative procedures. Whatever the method of demonstration is for a system, it will be the constant admitted to the propositional function, "validly following from," or "implication", relevant to that system. Thus "coherent truth" is structurally possible, which will result in terminal theorems very foreign to what the eulogistic psychology of "rigorous thinking" has thus far demanded. Moreover, the "nonsense" which is the test for the inadmissibility of constants in propositional functions will be found to be an equivalent propositional function for "false" which, as the "formal contradictory" of "true", is merely an *other*, and related to it by exclusion. Whatever psychological or supra-cogitative criteria may be brought to bear, dialectically the constants of "nonsense" are not only *not* irrelevant to "truth" but implied by it *definitively*.

And in the same way that an analysis of the supraordinate proposition which resolved the opposition between *material implication* and *definitive implication* rested in the identity condition: "there is a relation between p and not-p"; so the supraordinate proposition which resolves the opposition between demonstration by *material implication* and demonstration by *analytic implication*, rests in the identity condition: "there is a relation between p and q"—where p is supraodinate. A further determination of this function would, as has been demonstrated, invoke a still supraordinate proposition which would, likewise, in that context, be only partially determinate.

Three theses, then, will summarize this discussion.

1. Implication is the subsistence of relationships between entities in discourse.

2. *Definitive implication* is the relation of exclusion by which co-ordinate *others* are related to a given element; *analytic implication* is the relation between an element and its subordinates.

3. "True" and "false" are propositional functions, the partial determinations of which are the partial determinations of the relations between implied elements.

APPENDIX F

Plato is referred to in the text as the only historical philosopher who thoroughly exemplifies the dialectical attitude and whose work is an embodiment of the dialectical procedure. This representation of Plato becomes extremely inimical to the orthodox and conventional conception of Plato when it goes so far as to ignore the "Platonic doctrines" entirely, either as a misunderstanding perpetrated and perpetuated by the scholarly tradition, or as irrelevant to Plato the philosopher. So radical a departure in historical construction clearly requires some evidence and corroboration. The evidence and arguments in support of this theory of Plato cannot be offered in detail here. Readers are referred to a forthcoming work by Professor F. J. E. Woodbridge, to whom I am profoundly indebted for my introduction to Plato in the light of this refreshing interpretation of him. The following three quotations, however, are presented as exemplary in lieu of adequate documentation and authoritative discussion.

The first is a brief quotation from Plato's *Letters*, Epistle vii, 341, b–d. In this passage Plato refers to those who pretend to have set forth his philosophic doctrines.

"I hear too that he (*Dionysius*) has since written on the subjects in which I instructed him at the time, as if he were composing a handbook of his own which differed entirely from the instruction he received. Of this I know nothing. I do know, however, that some others have written on these same subjects, but who they are they know not themselves. One statement at any rate I can make in regard to all who have written or who may write with a claim to knowledge of the subjects to which I devote myself—no matter how they pretend to have acquired it, whether from my instruction or from others or by their own discovery. Such writers can in my opinion have no real acquaintance with the subject. I certainly have composed no work with regard to it, nor shall I ever do so in the future; for there is no way of putting

it in words like other studies. Acquaintance with it must come rather after a long period of attendance on instruction in the subject itself and of close companionship, when, suddenly, like a blaze kindled by a leaping spark, it is generated in the soul and at once becomes self-sustaining.

" Besides, this at any rate I know, that if there is to be a treatise or a lecture on this subject, I could do it best. I am also sure for that matter that I should be very sorry to see such a treatise poorly written. If I thought it possible to deal adequately with the subject in a treatise or a lecture for the general public, what finer achievement would there have been in my life than to write a work of great benefit to mankind and to bring the nature of things to light for all men ? I do not, however, think the attempt to tell mankind of these matters a good thing, except in the case of some few who are capable of discovering the truth for themselves with little guidance. In the case of the rest to do so would excite in some an unjustified contempt in a thoroughly offensive fashion ; in others certain lofty and vain hopes, as if they had acquired some awesome lore."

The second is a quotation from A. E. Taylor's recent work on Plato (pp. 201–2). In this passage, which occurs at the end of an elaborate study of *The Phaedo*, Taylor outlines the Socratic method, the method which Plato called dialectic or philosophy.

" The disappointment, Socrates says, confirmed his opinion that he was ' no good ' at natural science, and must try to find some way out of his ' universal doubt ' by his own mother-wit, without trusting to ' men of science ', each of whom only seemed to be able to prove one thing—that all the others were wrong. His description of the ' new method ' reveals it to us at once as that which is characteristic of mathematics. It is a method of considering ' things ' by investigating the λόγοι or ' propositions ' we make about them. Its fundamental characteristic is that it is deductive. You start with the ' postulate ', or undemonstrated principle, which you think most satisfactory and proceed to draw out its consequences or ' implications ', provisionally putting the consequences down as ' true ', and any propositions which conflict with the postulate as false (100a). Of course, as is made clear later on, a ' postulate ' (ὑπόθεσις) which is found to imply consequences at variance with fact or destructive of one another is taken as disproved. But the absence of contradiction from the consequences of a ' postulate ' is not supposed to be sufficient proof of its truth. If you are called on by an opponent who disputes your postulate to defend it, you must deduce the postulate itself from a more ultimate one, and this procedure has to be repeated until you reach a postulate which is ' *adequate* ' (101e 1), that is, *which all parties to the discussion are willing to admit.* (Italics mine.—M.J.A.) The most important special rule of the method, however, is that, also insisted on by Descartes, that a proper order must be observed. We are not to raise the question of the truth of a ' postulate ' itself until we have first discovered exactly what its consequences are. The confusion of these two distinct problems is the great error of the ἀντιλογικοί (101e).

> In spite of his humorous deprecation of his proceeding as that of an amateur, Socrates has evidently like Descartes, reflected carefully on the nature of the geometrical method, and like him, he is proposing to introduce the same method into scientific inquiry in general."

The third quotation is from the *Autobiography* of John Stuart Mill. At about the age of 12 he was introduced to some of the dialogues of Plato, and at that age he was able to make the distinction here being discussed. He writes, in retrospect :—

> " I have felt ever since that the title of Platonist belongs by far better right to those who have been nourished in, and have endeavoured to practise Plato's mode of investigation, than to those who are distinguished only by the adoption of certain dogmatical conclusions, drawn mostly from the least intelligible of his works, and which the character of his mind and writings makes it uncertain whether he himself regarded as anything more than poetic fancies, or philosophic conjectures."

The reader may not have had the great advantage of John Stuart Mill's early training, but after following the argument of this book he can at least be expected to assume a dialectical attitude toward the issue between the orthodox conception of Plato as the author of " dogmatical conclusions " and the Plato here presented as the author of dramatic reproductions of dialectic, and as a philosopher in the sense that therein are to be found a certain intellectual temper and a certain method.

Appendix G

The distinction made in the text between philosophy and science has an interesting parallel in the statements made by Wittgenstein in propositions 4.111 and 4.112 of the *Tractatus*: " Philosophy is not one of the natural sciences. (The word ' philosophy ' must mean something which stands above or below, but not beside the natural sciences.) The object of philosophy is the logical clarification of thoughts. Philosophy is not a theory but an activity. A philosophical work consists essentially of elucidations. The result of philosophy is not a number of ' philosophical propositions ' but to make propositions

clear. Philosophy should make clear and delimit sharply the thoughts which otherwise are, as it were, opaque and blurred."

And he goes on to make a statement which harmonizes with the argument in the text concerning the relation of the *Summa Dialectica* to its subject-matter, the relation of philosophy *as dialectic* to epistemology, for instance, which is traditionally considered a branch of philosophic doctrine: " Psychology is no nearer related to philosophy than is any other natural science. The theory of knowledge is the philosophy of psychology." (4.1121)

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