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THE ANALYSIS[']
OF
KNOWLEDGE

THE 'ANALYSIS OF KNOWLEDGE

by

LEDGER WOOD

ASSOCIATE PROFESSOR OF PHILOSOPHY
IN
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PREFACE

THE present re-examination of the central issues of epistemology may be described as an essay in philosophical psychology. I am convinced that no epistemology can be sound which is psychologically defective, nor any psychological analysis of knowledge significant which is philosophically naïve. A common practice of epistemologists is either to appropriate unconsciously outmoded psychologies of the past or else to improvise psychological theories to meet the exigencies of their epistemological speculations. But regarding the relation between epistemology and psychology, so much is certain—the psychology of perception, memory, conception and of the other cognitive processes of mind affords the indispensable data of the theory of knowledge and any epistemological theory which is committed to psychologically false assumptions is to that degree false.

In the epistemological analyses of the chapters which follow, I have attempted to discern a single structural pattern underlying every type of cognitive situation. The analysis of knowledge is undertaken at three principal levels: the perceptual, the introspective and the conceptual, and the thesis is maintained that knowledge, whatever its professed object, has a characteristic internal structure and external reference. The resultant theory, which may perhaps be described as a referential or intentional theory of knowledge, has close affinities with recent positivistic, phenomenalist and fictionalistic tendencies in epistemology, and yet at the same time seeks to do justice by the realistic claims of knowledge.

My interest in philosophical psychology and in the psychological approach to epistemology was aroused by my former colleague, Dr. R. B. C. Johnson, McCosh Professor of Philosophy, Emeritus, in Princeton University, whose dis-

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tinguished mind combines to a remarkable degree extensive learning with philosophical subtlety and penetration. I have received from Dr. Arthur O. Lovejoy, Professor of Philosophy, Emeritus, in The Johns Hopkins University, many helpful suggestions in the terminology of epistemology and in the precise formulation of its problems, although my present epistemological position diverges widely from Professor Lovejoy's version of critical realism. I have derived much assistance, particularly in the early stages of the present project, from my former colleague, Mr. John A. Irving, now Professor of Philosophy in the University of British Columbia, whose criticisms reflected his wide acquaintance with both philosophical and psychological literature. To my colleague, Professor W. T. Stace, I wish to express my gratitude for his sustained interest and encouragement in the present project. His contagious enthusiasm for epistemological analysis and the example of his critical and constructive originality have been a source of constant inspiration to me. Finally, I am indebted to Professor D. F. Bowers of the Princeton philosophy department, whose appreciative understanding and able criticism have been invaluable at every stage in the composition of the present volume.

LEDGER WOOD

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CHAPTER I

The Knowledge-Situation

THE problem of knowledge, broadly considered, is unquestionably the most absorbing problem for the classical modern philosophers and it continues to bulk large in contemporary philosophy. The problem is enormously intricate, and has come to embrace a great variety of subsidiary and related problems such as the problems of method, sense-perception, the function of reason in knowledge, and the criterion of truth. The array of problems is bewildering and one is certain to become lost in the maze of epistemology unless one restricts the area of exploration or adopts some leading thread to guide his steps. I propose, accordingly, in dealing with the crucial questions of epistemology, to adopt as my leading conception that of cognitive transcendence—the reference of all knowledge to something beyond itself. A peculiarity of knowledge is that it is always *of* or *about* an actual or supposed object other than itself. Referential transcendence is, I shall contend, an essential and indispensable feature of all knowledge—a feature which is in large measure responsible for the peculiar structure of the knowledge-situation. I shall attempt to describe in the present chapter the characteristic pattern of knowledge which is repeated with variations in the several sub-types of cognition. There are no doubt many ways of classifying knowledge, but certainly one of the most fruitful is to enumerate the types of knowledge according to the character of the object cognized. Thus perception is the apprehension of a supposed outer reality; memory is the recollection of past perceptual objects or past experiences of the remembering subject, conception is directed toward abstract systems and universals. These instances of

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cognition—diverse as they are—are alike in so far as each involves a reference to something beyond the immediate data of experience. Hence reference would seem to be the common denominator of the several types of cognition and the defining trait of the knowledge-situation. The *factuality* of transcendent reference is indisputable, for it is a recognizable feature of every act of cognition from the most rudimentary perceptions to the most abstract and recondite constructions of mathematics and philosophy, but its *explanation* is quite another matter. The ability of an item of immediate experience to refer to that which lies beyond the experience itself is a truly remarkable property of our conscious experience for which there is no exact analogue in the order of nature. A precise descriptive analysis of the referential quality of our cognitive experience is therefore the first task of epistemology.

The phenomenon of reference or transcendence is found whenever anything contains within itself a clue to something outside itself, and thus transcendence, in the epistemological sense, may be tentatively described as *that within any "given" which points to something beyond itself*. The referential function of knowledge is not to be confused with the allied phenomenon of signification. To refer to something, whether existent or subsistent, is merely to intend it or to direct one's attention toward it, as when I think about the desk in front of me or about the number "two". The desk and the number "two" may under these circumstances be described as the objects or the referents of my act of reference. Signification, on the other hand, is a relation between one referent and another when the one is taken as the sign of the other. A certain barometric reading which is a referent is a *sign* of rain which is also a referent. Again, certain articulate sounds or marks on the printed page may be signs of the number "two" which is a conceptual referent. Reference is an attitude of the knowing or intending mind towards something real or supposititious, whereas signification is relation between two or more objects of reference. It is evident that reference is the

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more fundamental of these two processes, for reference may exist without signification, whereas signification always depends upon a prior reference.

Difficult as is the description of transcendence, it is a familiar and pervasive aspect of our experience which one can scarcely fail to recognize and identify when it is actually encountered. Every act of perception is accompanied by a feeling of "out-there-ness". When I look at the design of the wall-paper on the side of the room which I face, I do not merely see a pattern of colour patches, but I see the wall as a perceptual object and it is the act of reference which is one of the important factors contributing to this sense of perceptual objectivity. I can no doubt consciously suppress the referential, constructional, and interpretational ingredients of my perception of the wall-paper with the result that it is seen no longer as an object but as a mere colour design, but in so doing I destroy the original perception and transform it into the apprehension of a number of discrete sense qualities.

The referential function which characterizes even the most rudimentary perceptual experience is likewise present in imagination. If, while I am looking at the wall of my study, I conjure up the other side of the wall as I imagine it would appear if I were in the adjacent room, I do not merely recall the sensuous imagery which I retain from earlier perceptions of the interior of that room, I also project these images into the referential scheme of my present perception. Imagination, even when its objects are far removed in space and in time, preserves its referential characteristics. When I call to mind a building in a distant city or the memory of a childhood incident or reconstruct a remote historical age, I assimilate the object in every case to its appropriate referential scheme. Even the more abstract forms of knowledge conversant with conceptual objects are likewise characterized by reference. When I follow a mathematical demonstration, I am thinking *about* lines, planes, numbers, and other ideal entities which, even if they have no existential status, are yet objects of

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reference and have their proper place in the ideal scheme of mathematics. The same is true of philosophical speculations about substance, truth, goodness, God, and other metaphysical objects. Concrete, sensuous images are the vehicles of abstract thinking in logic, mathematics, and philosophy, but all such thinking professes to be conversant with abstract realities which transcend images. Abstract and ideal objects may or may not possess the reality which the mind tends to ascribe to them, but the factuality of the reference to such objects is indisputable.

Admitting the existence of transcendent reference, one is next confronted with the problem of accounting for its peculiar character and mode of operation. How is it possible for a given which simply *is* itself to contain a reference to something beyond? Cognitive transcendence is certainly one of the most mystifying properties of mind. The mystery and inexplicability characterizing the phenomenon of reference result, at least in part, from the fact that reference pertains exclusively to conscious content and does not characterize extra-mental objects. The mind can refer to an object, but one object, properly speaking, never *refers* to another object, even though it may *signify* another by virtue of the inclusion of the two in the same referential scheme, and thus observation of physical phenomena affords no clue to the understanding of conscious reference. But when one seeks to examine directly the referential function of conscious content, one encounters the observational difficulty that the act of reference is inscrutable at the time when it prevails in consciousness. Any given referential act is directed towards its proper referent and cannot be an object for itself, but only for some subsequent referential act. Reference, because it is intrinsic to the cognitive act, is no more capable of self-scrutiny than is the eye, which is the organ of vision, capable of seeing itself.

The question: "What is the *modus operandi* of the cognitive transcendence of the given?" may in the last analysis be a meaningless and unanswerable question because reference is

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an ultimate, irreducible, and hence inexplicable property of the knowing mind on a par with intensity, duration, extent, and other basic features of consciousness. Nevertheless, cognitive transcendence admits of a purely psychological explanation in so far as the referential function of knowledge may be considered a specification of a general property of conscious experience, namely "intent" or "intentionality" which characterizes, besides the cognitive, the volitional and perhaps other phases of the mental life. Volitional activity is directed towards its goal or "objective" precisely as knowledge is directed towards its object. "Intent" may very properly designate that self-transcendence of the immediately given involved in every desire, wish, purpose, or act of intellectual apprehension. Certainly the verb "intend" and the corresponding substantives "intent" and "intention" are commonly employed both in the conative and in the cognitive senses. The question, "What is your intention?" may in a certain context mean "What is your purpose?" but under other circumstances it may mean merely: "What are you referring to?" Intent, intention, reference, and meaning (in the referential sense) are virtually synonymous. The usefulness of the term "intent" arises from its dual cognitive and conative import, it suggests the essential similarity between cognition and other referential situations, and that reference is a characteristic common to many diverse types of situation in which mind is a participant. Desire—except in certain pathological cases in which it is apparently objectless—is always desire *for* something. A purpose is always directed *toward* its goal however abstract, ideal, and inarticulate; knowledge is *of* or *about* something; and even emotions are ordinarily attached to some object or other. The objects of desire, will, cognition, and emotion may not and frequently do not enjoy actual and literal existence. Thus the objects of desire and volition are in the nature of the case in-existent at the moment of desire or volition, and the objects of conception and imagination are merely envisaged without being actualized at the time. The appearance of intentional

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reference in these diverse conscious processes suggests that intent is an intrinsic and pervasive feature of the psychologically given and is on a par with the other primary dimensions of consciousness, namely quality, intensity, duration, etc.

Intent is an elusive and ineffable feature of mental events which has consequently not received from psychologists the attention to which it is entitled. Despite its elusiveness, there can be no question about the existence of intent as a psychic fact which reveals itself to careful introspection and which is as inseparable from conscious content as are their intensity and duration. Consciousness, if deprived of the attribute of intent, would lapse into a condition of pure *aesthesia* closely approximating the complete absence of consciousness. Intent is so pervasive a feature of our conscious experiences that it is capable of serving as the criterion of mentality; the defining trait of a mental event is its character of intentionality. To this, it may be objected that there are certain patently non-intentional items of the mental life, notably vague, objectless emotions and feelings of pleasantness and unpleasantness. But I think it will be found on closer introspective scrutiny that no feeling or emotion is ever really objectless. Even when the object recedes, as when a violent personal hatred gradually loses its original object and is transformed into a generally hateful disposition, the emotion either retains some of its original objectivity or is transferred to new objects. An emotion or feeling which no longer has a *specific* object still preserves its urge towards objectivity and embraces any appropriate object which presents itself. That attitude of pervasive and romantic sentimentality described as being "in love with love" has a latent objectivity and readily attaches itself to some particular member of the opposite sex. An emotion or sentiment may be minimally or generically objective, but it is never completely objectless. Pleasantness and unpleasantness are not easy to assimilate to an intentional theory of consciousness, for they alone of all the constituents of the mental life seem to be non-referential. We have knowledge of, desires

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for, and emotional reactions *towards* various objects, real and imaginary, but we can scarcely be said to have pleasures *of*, *for*, or *towards* anything. The prepositions expressing reference are not appropriate in connection with hedonic feelings because these seem to subsist in their own right in a "subjective" realm without being directed towards anything beyond themselves. Are not the feelings of pleasantness and unpleasantness devoid of that self-transcendence which characterizes the rest of the mental and are we not, as a consequence, faced with the dilemma of either excluding them entirely from the mental realm—which is an exceedingly arbitrary procedure—or else repudiating the definition of the mental in terms of intent? There is, I believe, an escape from this dilemma if pleasantness and its opposite are considered not primary ingredients of consciousness on a par with sensations, perceptions, emotions, etc., but rather affective qualities of the latter. The substantives pleasure and pain should be replaced by the adjectives pleasant and unpleasant respectively. The substantival view of the older hedonistic psychology that pleasure and pain exist in their own right and mingle on a basis of equality with the other inhabitants of the psychological world is to be rejected in favour of the view that they live an attributive and parasitic existence in the realm of mind. There are no pure pleasures and no pure pains, but instead pleasant and unpleasant colours, sounds, tastes, odours, and emotions. Although pleasure and pain are not substantive states of consciousness possessing intent, they are always associated with other primary states which are themselves intentional. Intent may therefore, without reservation or exception, be considered a pervasive and defining property of consciousness both in its cognitive and non-cognitive aspects. Cognitive transcendence is not, to be sure, explained in any ultimate sense through its subsumption under intent, but when so considered it ceases to be a mysterious and isolated phenomenon.

A physiological type of explanation of intent in general and of cognitive transcendence in particular is available. Intent

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and cognitive transcendence are in all probability correlated in some way with the efferent phase of the stimulus-response mechanism and not exclusively with its sensory phase. The assertion that intent is nothing but the inner sense of motor discharge or innervation is perhaps not warranted by our present knowledge of the psychophysical relation and yet just this may prove to be the case. Intent is the conscious correlative of the total sensory-response mechanism, and it seems likely that, if the motor concomitants of perception were entirely eliminated, the object would dissolve into an aggregate of sense qualities lacking in the characteristic objectivity and externality conferred upon them by intent. The response and the correlative intent need not, of course, be occasioned by a present stimulus—as is the case in ordinary perception—but may in certain forms of cognition, for example memory and imagination, be a complexly conditioned and long-delayed response. Since in no forms of cognition are the motor elements entirely lacking, they are thus always available for the explanation of cognitive transcendence

The psychological theory of intent provides an explanation of cognitive transcendence and makes possible a description of the cognitive-situation far simpler and more adequate than is afforded by the traditional analysis of the factors in cognition. By the traditional analysis of cognition I mean the representative theory espoused in one form or another by Galileo, Descartes, Hobbes, Locke, and even Kant. The last named superimposed much of the paraphernalia of representative perception upon the critical philosophy, and even thinkers like Berkeley and Hume who repudiate the theory, phrase their own views in the language of representationism and retain many of the assumptions and presuppositions of that theory. Not only because of its historical importance, but likewise because the alternative accounts of the knowledge-situation are either modifications of or protests against it, representationism provides the most natural point of departure for the consideration of the problem of knowledge. The repre-

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representative theory distinguishes three factors in the epistemological situation: (1) the *subject*, (2) the *content* or vehicle of knowledge, and (3) the *object*. The cognizing subject is a self or a simple act of awareness which is the possessor of the knowledge. The content—otherwise designated “the given”, “data”, “ideas”—embraces all that is immediately given to the subject, through which it knows the object. While most historical forms of the theory of representative cognition have ascribed a mental or psychic status to the “content”, this ascription is by no means essential to the theory, for the immediate data of cognition need not partake of the mental nature of the subject to which they are presented. The “object” is the ultimate goal or referent of knowledge—it is that which the knowledge is *about*. The essential and distinctive tenet of the traditional representative theory is that the object of knowledge does not appear directly to the knowing subject but only vicariously. The analysis of knowledge into its three factors is framed with special reference to perception: the subject in this case is the perceiver, the “I” which now sees the coloured design of the wall-paper in front of me, the content is the configuration of colours considered as immediate data of experience, and the object is the thing perceived, the wall considered as a part of a world of perceptual objects. The formula is, also, readily applicable to the several forms of non-perceptual cognition, and it must be accounted one of the great merits of the representative theory that it thus admits of generalization. Memory is peculiarly amenable to treatment by the traditional theory—indeed the pastness of the objects of memory seem almost to render a representative theory inescapable. In memory the three factors of subjects, content, and object appear as: (1) the present act of remembering, (2) the memory image, and (3) the past event remembered. The duality between the second and third factors is as has already been suggested peculiarly impressive in memory because of the obvious time-discrepancy between them. Memory is a present apprehension of a past occurrence and

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it is difficult to see how it could be anything else than representational.

To assimilate abstract and conceptual cognition to the representative pattern necessitates the admission of universals in some sense. The literal object of an abstract concept—in the sense in which the thing perceived is the literal object of a percept—would be an abstractum or universal. A universal is precisely that kind of entity which is appropriately represented in consciousness by an abstract or generic concept. The epistemological triad: subject, content, and object becomes in conceptual cognition: conceiver, concept, universal.

Pure representationism would apply the triadic formula to all forms of knowledge, but there are no historical instances of pure representationism. Historical theories of knowledge are hybrid, perhaps combining a representative theory of perception with an immediate or intuitional theory of the knowledge of universals which dispenses entirely with concepts. Or representative perception may be combined with a nominalistic account of conceptual knowledge which retains the concepts while repudiating the correlative universals. It is, of course, quite possible that some mixed or impure variety is true, but it is certainly in the interest of simplicity to discover if possible a single formula to embrace perceptual, mnemonic, conceptual, and other types of cognition. I hope I shall be able to show in later chapters that the intentional or referential rather than the representational formula accomplishes just this.

The theory of representative knowledge is not to be identified with a crude copy theory of knowledge—although the copy theory is admittedly a representative theory. A common misconception of the representative theory—fostered by most of its critics and even by some of its exponents—is that the relation between datum and object is necessarily one of resemblance. Resemblance and representation are two very different relations and either may obtain between two terms in the absence of the other. Two trees in a forest may be similar although in no sense is the one a representative of the

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other. On the other hand, the printed word "tree" is symbolically representative of the tree in the forest, but there is no significant resemblance between the black shapes on the page and the living structures to which they refer. Resemblance and symbolism may to be sure coexist, *e.g.* between a coloured photograph and its original, but this fact does not obliterate the real distinction between the two relations. Thus in the knowledge-situation the content may be representative of the object without in the least resembling it. The disrepute into which the representative theory has fallen is in no small measure due to the failure to differentiate between logically distinct relations, representation and reproduction.

The several alternative solutions to the epistemological problem may be most conveniently stated in the language of representationism. This is because the other theories are simplifications of that theory obtained by a synthesizing or telescoping of the elements in the representative situation. In describing the various transformations of the primary theory it will be convenient to refer to the subject, the content, and the object as S, C, and O respectively.

One possible transformation of the primitive theory results from the fusion of S and C. The initial separation between subject and content was undoubtedly made under the influence of the metaphysical soul-substance dogma. If the self is a pure principle of subjectivity, then the variegated contents of consciousness—colours, sounds, tastes, odours, pleasures, emotions, etc.—must be relegated to another category of the mental. They are present to the knower but do not participate in his essential nature. The psychic realm is thus divided into two compartments: on the one side is the single permanent and indivisible self or knower, on the other a multiplicity of changing ideas and thoughts. The gradual dissolution of the doctrine of substantial souls in the course of the development of modern philosophy has largely nullified the distinction between subject and content, but it still survives in a weakened form in the distinction between the activity and the content

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of consciousness. Epistemologists have often accepted uncritically the view of mind as a pure activity which directly cognizes conscious content or even external objects, much as a searchlight plays upon and reveals the surrounding landscape. The view of consciousness as a contentless act is the product of false abstraction and would never have prevailed except for the encouragement of the traditional theory of the pure ego. There are neither psychological nor epistemological grounds for splitting consciousness into halves—act and content. Consciousness is a process in which the existence of content is *ipso facto* the awareness of it. There is, strictly speaking, no consciousness *of* content, but merely the conscious presence of conscious content. It would never have occurred to anyone who was not deluded by a metaphysical dogma to distinguish between his emotion of anger and his awareness of that emotion or between the *sensing* of a green patch and the colour patch *sensed*. The distinction is given a semblance of plausibility by the employment of the physical analogy of the searchlight, the activity of awareness is likened to the pure bright light of the search-light and the contents of the mind to the multi-coloured objects upon which it plays. But the analogy is spurious and misleading, for in consciousness there is no duality between the illuminating and the illuminated. A much more appropriate physical analogy to consciousness is some such simple physico-chemical process as combustion. The burning of a log in a fireplace is a continuous process of combustion or oxidization which spreads slowly from one part of the wood to another until the whole log has been transformed into smoke and ashes. Language permits us to speak of the flame as *burning*, the log as being *burned* by the flame, but this is a scientifically incorrect description of what takes place. The duality which is attributed to the flame and the burning log and the duality between act and content which is attributed to conscious processes, both result from false abstraction and hypostatization—in the one case of the flames and in the other of the pure activity of mind. Physical

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analogies suggest that the subjective act, S, and the content, C, are distinguishable but inseparable aspects of the one conscious process. The telescoping of S and C accomplishes a great simplification of the epistemological situation, for now a single conscious process, considered as a fusion of activity and content, serves both as subject and as vehicle of knowledge. Consciousness as an attentive and selective activity performs the function as knowing subject and the same conscious content by virtue of its referential capacity effects the cognitive transcendence of the immediately given requisite to knowledge in all its forms. In abolishing the subject as a separate principle apart from the content, nothing of epistemological importance has been lost, since the content itself is capable of performing the functions for which the separate subject was devised.

Far more difficult of solution is the problem of the relation between C and O which is among the most controversial issues of epistemology. The main types of epistemological doctrine, representative realism, subjectivism, and presentative realism are just so many possible positions which may be adopted concerning this relation. If C and O be identified in such fashion that O is telescoped into C—or what amounts to the same thing, if O be denied altogether—the resultant doctrine is subjectivism or epistemological idealism. Epistemological idealism is not to be confused with metaphysical idealism. An epistemological theory affirms nothing regarding the metaphysical character of the factors in the cognitive-situation, its sole function being to describe the epistemological relations among those factors in total disregard of their substantial nature. Thus epistemological idealism identifies object and content, and asserts the dependence of the object (or content) upon the knowing subject without being committed to a mentalistic interpretation of the object. As a matter of historical fact, epistemological and metaphysical idealism are invariably found in combination, but this is due to a natural affinity between the two doctrines and not to the logical entailment of the one by the other. Epistemological

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idealism might conceivably be found in combination with a non-idealistic metaphysics. The essential tenet of epistemological idealism is that the only object of cognition *is* the content and that this object exists when and only when it is apprehended by the knowing subject. At such times as the content or object is uncognized it lapses into sheer nonentity. The epistemological situation is accordingly reduced by the epistemological idealist to the two factors: (1) the immediate content or ideas, and (2) the subject which apprehends them.

A second "degenerate" (using the term, of course, in its descriptive and not its derogatory sense) form of the representative theory is pan-objectivism, which, like subjectivism, identifies C and O, but unlike subjectivism assimilates C to O instead of O to C. Thus, whereas subjectivism is the virtual denial of O, pan-objectivism is the virtual denial of C. No content supervenes between S and O, and thus the object, which is independent of the knowing subject, is directly apprehended by the knowing subject. Both subjectivism and objectivism derive from the original representative theory by the identification of C and O, and the only significant difference between them is that according to the former theory the object, being content, lapses into nothingness when uncognized, whereas on the latter view the object persists during inter-cognitive intervals and preserves at such times the same properties which it had when cognized. ✓

The issue between epistemological monism, the theory of the numerical identity of content and object, and epistemological dualism, the theory of the numerical duplicity of content and object, cannot be decided in the abstract and in advance of examination of each of the several varieties of cognition. It is quite possible that the monistic formula may apply to some kinds of cognition and the dualistic formula to the rest. The possibility of combining an intuitionist (monistic) theory of conceptual knowledge with a representative (dualistic) theory of perception or *vice versa* has been suggested above. It is, however, more likely that a single epistemological pattern

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is repeated with appropriate modifications for each of the several types of cognition, and the attempt will be made in the chapters which follow to demonstrate that the principal sub-varieties of cognition exemplify such a pattern. The cognitive situation will be analysed into two factors, namely, (1) the ideational content, and (2) the cognitive object. Although the subject of the traditional analysis is dispensed with entirely, it will be convenient at times to retain the terms subject and knower to designate the ideational content in so far as it belongs to the continuum of someone's personal experience, and there is no objection to this usage provided the words are not allowed to suggest a pure, substantial, or transcendental ego. Intent is not included as a third distinct factor in the cognitive situation because it is an intrinsic and inseparable determination of the content—the reference of the ideational content to the object being mediated by the intent resident in the ideational content. The cognitive or epistemological object is that which is intended by the ideational content. The cognitive object is a "meaning" or an "objective" constituted by the intentional process and is not an actually existent entity. In veridical cognition there undoubtedly exists a literal object correspondent to the cognitive object, but frequently, as in fictional and supposititious cognition, there is no actual or ontological object. The presence or absence of a literal object is an existential question of the utmost importance, but it is totally irrelevant to the cognitive situation as such. The structure of the referential situation is the same whether or not there exists an actual object conformable to the specifications of the intended object. It is for this reason that the real or existential object is not included among the factors in the cognitive situation. Some of the most perplexing paradoxes and anomalies of epistemology result from a failure to distinguish between the epistemic object (the object as intended), and the ontologic object (the object as it really exists). The former alone is the concern of epistemology, the latter belongs to the domain of metaphysics. The exclusion of the literal

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object from the cognitive situation makes it possible to subsume all types of cognition—veridical and non-veridical alike—under a single comprehensive formula. The analysis of knowledge in accordance with the intentional or referential formula will be applied to each of the following sub-varieties of cognition:

1. *Perception* is the apprehension of phenomenal objects, such as mountains, trees, houses, human and animal forms, etc., on the occasion of sensory stimulation. Since perceptual cognition is the product of direct sensory stimulation, the sensory ingredients are central and predominant, but not to the exclusion of interpretational factors. Another characteristic feature of perception is the presumptive contemporaneity of the perceived object and the act of perception; the object is cognized as contemporaneous whatever time discrepancies may be revealed by physical measurement. The percipient feels that he is directly present to the perceptual object.

The distinction between perceptual and non-perceptual knowledge is not absolute: there are many inferential and constructional elements in perception, but they all cluster about a sensuously produced core. On the other hand, all non-perceptual knowledge contains as its quasi-sensuous core a sense-derived image which takes the place of the sense data of perception, but in all such knowledge the constructional and inferential elements are relatively more prominent than in perception.

2. *Perceptual Memory* is the apprehension by a subject of objects belonging to his perceptual past, that is to say, which were once actually perceived by him. The object of the original perception and the object of its subsequent recollection are referentially identical, the original percept and the subsequent memory are of the same thing. The subject's recognition that the now remembered object was once a part of his perceptual experience is essential to memory. The remembered object must not only be cognized as past but as belonging to *my* past. A memory which has entirely lost its personal and temporal

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moorings ceases to be a memory and becomes a mere image.

3. *Historical cognition* is a non-perceptual apprehension of past objects. It differs from perceptual memory in that its objects were never perceptual objects for the knower or, if they ever were, they have been entirely forgotten. Historical knowledge includes, not only history in the narrow sense of a reconstruction of human events on the basis of documentary evidence, but also astronomical, geological, anthropological, and archaeological reconstructions of the past. Historical knowledge is dependent upon perception in that all historical reconstruction departs from present perception of documents, monuments, etc., or else from perceptual memory of them. Furthermore, historical knowledge has a quasi-perceptual character in that the objects envisaged by it are not scientific objects, like atoms, electrons, etc., but perceptual things and events as they appeared or might have appeared to some actual or hypothetical percipient. A typical instance of historical knowledge would be the imaginative reconstruction by an astronomer of the appearance of the heavens to an earthly observer at some definite date in the past.

There are, of course, besides historical knowledge many other classes of indirect and inferential knowledge of phenomenal objects such as the imaginative construction of future occurrences and of contemporaneous events which are remote in space or otherwise inaccessible to perceptual observation. These objects, although they have never been perceived by the subject, are inferred from objects which he has perceived. Inferential cognition of this sort enables the subject to attain a conception—however fragmentary and inadequate—of the system of nature. From the indefinite totality of possible perceptions, it is the lot of each individual to perceive and remember a few which provide a point of departure for the inferential construction of the framework of the phenomenal world. Every percipient, however restricted the scope of his perceptual experience, has the materials for the erection of

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his own individual "cosmology" which far transcends the items actually perceived and remembered. The varieties of inferential cognition whereby the phenomenal world is extended and even ideally completed do not involve any new principle not already involved in historical knowledge.

4. *Introspective cognition* is the apprehension by a subject of earlier processes of the same subject. Every introspective observation and analysis is necessarily an act of memory—this is the import of the familiar formula: "All introspection is retrospection"—but the converse: "All retrospection is introspection" is not true, for most memories are perceptual and non-introspective. The difference between ordinary memory and introspection is solely referential or contextual. The object of perceptual memory is the object of an original perception considered in the context of other perceptual objects, that is to say, as a part of the system of nature; the object of an introspective cognition is an earlier cognition, emotion, volition, or other process of the cognizing subject, considered in the context of his personal life. Introspection is directed both towards particular processes of a subject and towards the total self, envisaged as the ideal completion of the series of its conscious processes. The self, however, considered as a psychic substance or pure ego, can never become an object of introspective scrutiny and is posited, if at all, on the basis of inference and construction from the empirical self apprehended by introspection.

Introspection is commonly supposed to be a direct—perhaps even the most direct—form of cognition, but it is evident from the referential character of introspection that it is neither more nor less direct than perception and memory. The recognition that the introspecting act and the introspected process belong to the same subject does not alter the fact that the real object of introspection is no longer actual at the time of introspection, but is merely intended or referred to and consequently that even introspection is knowledge *in absentia*.

5. *Cognition of other subjects*.—The apprehension by one

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subject of the sensuous, perceptual, emotional, affective, and volitional contents of another subject is highly inferential and constructional. The belief in the existence of other psychic centres and the reconstruction of their private contents depend upon the introspection of one's own conscious processes and the perception of the bodily, including the linguistic, responses of others. The evidence for other minds is largely analogical, but one has in the presence of other selves a sense of immediate personal presence. This sense is deeply rooted in the social instincts of mankind and may even antedate all analogical reasoning regarding other selves, but this fact is not, however, to be construed as supporting an intuitionist view of intersubjective cognition. Every cognizing subject remains at home with himself and his acquaintance with other selves is solely referential.

6. *Conceptual cognition* may be described as knowledge by concepts of abstracta. Perception, memory, introspection, and inter-subjective cognition are directed towards particular concrete objects, whether actual, hypothetical, or fictional; conception, on the other hand, is directed towards abstractions. The most rudimentary conceptual knowledge, and that which departs least from the cognition of individuals, is the conception of actual classes. The generic concept of an actual or exemplified class, *e.g.* house, dog, man, tree, is a linguistic symbol referring to a number of resembling individuals. The individual members of a class constitute a referential not a real totality. The class exists as a class only by virtue of the fact that its members, however widely separated in space and in time, are referred to by a single symbol, namely, the class-name or concept-symbol. To be sure the selection of individuals to constitute a class is governed by intrinsic properties of the individuals—properties between which there is a resemblance, structural or qualitative—yet the class is constituted by the act of reference. The class is thus a very different sort of cognitive object from the individual thing, the parts of which are contiguous and hence constitute a natural totality.

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The object of an exemplified generic concept is then a number of individual things, qualities, or relations which are similar to one another and are referred to by the class-name. The conceptual situation becomes even more complicated when we pass from exemplified to unexemplified concepts, but by the extension and generalization of the class notion which applies to actual existents, it is possible to envisage concepts of imaginary, ideal, and hypothetical classes. Most, if not all, the concepts of mathematics are of ideal objects; such metaphysical categories as essence, substance, possibility, non-being are unexemplified concepts as also are the concepts of ethical ideals, norms, and values.

CHAPTER II

Sensory Knowledge

PERCEPTION is the most appropriate starting-point for epistemological enquiry since bare sensation, the awareness of simple isolated sense qualities, even if it be admitted to exist as a psychological fact, belongs to a pre-cognitive level of experience. Perception, defined as the apprehension of an integral object—a tree, a chair, a book—is the most primitive activity of mind which may be dignified as cognition. Furthermore, perception preconditions all the other forms of cognition. It is difficult to see how without perception any one of the other forms of cognition enumerated in the last chapter could have evolved. Memory is patently dependent on perception—every memory image being a revival of an earlier percept. The relation between perception and memory is, however, somewhat more complicated than this statement would suggest, for while it is true that there is no memory without perception, it is equally true that there is no perception without memory. In every act of perception, however simple, recognition and interpretation play their indispensable rôle. Nevertheless, perception is, for most epistemological purposes, the primitive cognitive activity, and even the higher thought processes contain perceptually derived ingredients. Although perception is the most rudimentary cognitive process, it is analysable into sub-cognitive or infra-cognitive ingredients and this analysis is an indispensable preliminary to the epistemology of perception.

The perceptual situation—just because it is the most rudimentary type of cognition—clearly exemplifies the pattern of all cognition and provides helpful clues in the investigation

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of the higher cognitive processes. Perception is so concrete, so palpable, and so transparent that its structure can be readily discerned and its ingredients discriminated. The temptation is accordingly great to equate the theory of knowledge and the theory of sense-perception—a procedure which is quite illegitimate. Too great a preoccupation with perceptual cognition obscures the very real and very significant differences between it and the other cognitive forms. Indeed, much recent epistemology is vitiated by its arbitrary restriction to sense-perception and in particular to vision. The mechanism of vision has afforded the model not only for the interpretation of perceptual cognition but of cognition generally. Thus perception is indeed an invaluable guide in the exploration of non-perceptual knowledge, but a guide which cannot be blindly followed. The epistemologist must be ever alert for deviations from the perceptual pattern in his description of non-perceptual cognition. His quest is for a general epistemological formula, which like an algebraic equation with its variables, may assume special values for each of the several kinds of knowledge. The referential formula proposed in Chapter I introduces two such epistemological variables, the immediately given “content” or vehicle of knowledge, and the “object” of knowledge. The character of the “content” and the presumptive status of the “object” vary from perception to memory, from memory to imagination, and from imagination to conception, but the invariant feature of the cognitive situation is the presence of some content or other along with the reference to objects whether actual or fictitious.

In harmony with the referential formula, *perception may be defined as the apprehension of a phenomenal object on the occasion of sensory stimulation.* The differentiating feature of perceptual knowledge is the literal presence to the percipient organism of the physical object which occasions perception. The physical object may be in direct contact with the organism (as are the articles we handle and manipulate in ordinary activities of daily life), they may in the case of vision and

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audition be in the immediate vicinity of the percipient (like the trees, buildings, and mountains on the landscape), or they may in the case of vision be separated from the organism by astronomical distances (as are the moon, the planets, and the stars). The epistemologist in his definition of perception disregards, and quite properly, the physical distance separating the organism from the remote physical object which occasions the perception and the consequent time-discrepancy between the act of perception and the date of the source of the perceptual stimulus. Any event, however remote physically or astronomically, is in a certain epistemological sense present to the percipient if any one of the senses of the organism is receiving sensory stimulation which emanates from the event in question. The "epistemological present" embraces all objects and events, which through a continuous physical influence now stimulate one or more of the sense organs of the percipient. If I simultaneously see the sun, feel the desk on which I write, and hear a distant bell, the objects are *perceptually* compresent whatever may be their physical time-relations. The epistemology of sense-perception need not become involved in the time paradoxes introduced by relativity theory nor in the time-discrepancy between the date of the physical object and of the act of perception implied by the older physics.

The possibility of tracing a continuous chain of physical causation *from* the physical object of perception to the sense organs of the percipient is the differentia of perception. In other forms of veridical cognition also there must be some lines of continuous influence between the cognitive act and its real or ontologic object; thus in memory there exists between the present memory act and the object remembered a continuous chain of causation, but it proceeds *backward* in time from effect to cause through the brain and nervous system and then *outward* to the physical occasion of an earlier perception. In perception alone is the correlative physical object the direct occasion of the cognitive process.

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The physico-physiological treatment of perception involves a detailed description of the mechanism of the process, beginning with the physical object or source of sensory stimulation and terminating in the organism's response to the perceived situation. The process is one of enormous complexity for the detailed description of which the epistemologist has to draw heavily upon the physicist, the chemist, the physiologist, and the psychologist. Modern science can at the present time draw a remarkably complete picture of the elaborate machinery of perception and the epistemologist must accept the scientific account so far as it goes. But epistemology, as a philosophical discipline, is not concerned so much with the question: "How are objects perceived?" as with the question: "What is the nature of perceptual cognition?" Whereas the scientific account of perception proceeds causally from the perceived object to the percept, epistemology reverses the order and proceeds referentially from the percept to the perceived object. The percept and its object are related both causally and symbolically, and epistemology is concerned primarily with the latter aspect of the perceptual situation.

The percept, subjectively considered, is the most convenient starting-point for an epistemological analysis of the perceptual situation. In calling the percept "subjective", I do not wish to suggest that the percept belongs to a pure ego or knower nor even that it is made of some mental or psychic stuff, I am advocating merely a phenomenological analysis of the percept as a preliminary to the description of the total perceptual situation. A methodological subjectivism does not commit us to solipsism and to the ego-centric predicament, nor does it otherwise prejudice in advance other epistemological issues.

Perception is, according to the definition already advanced, conditioned by sensory excitation and the percept as a consequence has as its core or nucleus a sense quale or group of sense qualia. The irregular green patch which is the clue to the tree on the distant landscape, the faint ticking sound which I interpret as my watch are the sensory ingredients of these

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two percepts. The sensory content is the concrete nucleus, the mooring, or the individuating principle of the percept. In other forms of cognition, for example memory and conception, a sensuous image replaces the sensation as the core of the cognitive apprehension. About the central sensuous ingredients of the percept there is a cluster of imaginative and other interpretative ingredients, the consideration of which we defer for the time being. At present we are isolating the sensuous factor and disregarding its interpretative context, which will be treated in the next chapter.

The sense qualia—otherwise known as sense data or *sensa*—have been the occasion of bitter and acrimonious controversy among epistemologists. Do sense data exist as such or are they the products of false abstraction? What is the ontological character of the *sensa*? Are they made of mental or neutral stuff? Do they exist or subsist? These and similar questions have, I believe, received a disproportionate amount of attention from the epistemologist. The primary task of epistemology is the description of the cognitive situation in its entirety, and the question of the ontological status of the *sensa* is relatively inconsequential in the accomplishment of this task. It is all-important to determine the relation of the *sensa* to the mind and to the object of knowledge, but the problem as to what is the stuff or substance of the *sensa* is meaningless or, if it has a meaning, is trivial. I know of no significant criteria whereby the mentality, the physicality, or neutrality of the *sensa* can be determined. Disregarding entirely the metaphysical questions concerning the *sensa*, I shall seek only to assign them to their proper place in the knowledge-situation.

Modern epistemology, in its treatment of the *sensa*, has to its detriment been under the domination of sensationalism. The doctrine of the atomicity of the *sensa* has to a great extent vitiated the theories of contemporary sense datum epistemologists. I do not propose to enter upon a detailed critique of recent and contemporary discussions of the *sensa*, but shall

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merely give some indication of the pernicious influence of psychological atomism on epistemology. The sense data, which many epistemologists suppose to be immediately given and to constitute the building-blocks of knowledge, are considered by them to be pure, homogeneous, sense qualia. Like the "impressions" of Hume from which they derive historically, sense data are discrete, qualitative essences produced by epitomizing extended and enduring sensational qualities. In other words, a sense datum is the ideal limit approached by a qualitative *minimum sensible* when it is imagined to be qualitatively homogeneous and changeless. Pure sense data considered as qualitative epitomizations are very much like the qualitative essences of Platonic realism; it is an interesting philosophical paradox that extreme nominalism approaches very closely to an extreme realism. Humean impressions in their durationless qualitative purity are almost indistinguishable from the logical essences of traditional realism.

The sense data conceived as pure, homogeneous and changeless qualities have no psychological existence—they are in fact mere abstractions from and idealizations of qualitatively complex experiences. Even the psychological *minimum sensible* contains internal complexity and qualitative differentiation. The sense data, far from being the *first* in the order of knowledge, are the *end* products of refined and subtle psychological analysis and philosophical abstractions. The epistemological procedure which strives to interpret perceptual phenomena as the compounding of atomic sense is foredoomed to failure. This method, which has been aptly called "elementism", is at variance with the overwhelming evidence derived from psychology tending to support a structural and organic view of perception. The type of mental chemistry which characterized the older psychology—but from which psychology has largely emancipated itself—still infects the theories of sense datum epistemologists. The revolt against psychological atomism has spread to almost every contemporary school of psychology; the Gestaltists are, of course, the leaders in the

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movement, but the revolt against psychological atomism can be detected in psycho-analytical and even in behaviouristic psychologies. Sense datum epistemologists remain to-day the only defenders of an outmoded sensationalism.

Some believers in atomic sense data have sought to defend their view against psychological criticism by urging that theirs is a *logical* and not a *psychological* analysis of perception. They are prepared to admit that *sensa* data have no existence as psychological facts antecedent to perception, but, they insist, every perception is logically analysable into discrete and atomic *sensa*. Hence, while the compounding of perceptions from sense data is *psychologically* indefensible it is a *logically* sound procedure. The extreme opposition between psychology and logic which this view implies is untenable. There is, of course, a great divergence between the aims, methods, and assumptions of psychology and logic, yet the two cannot be completely divorced. The analytical procedure employed by the psychologist, does not actually separate out the components of consciousness as the chemist splits up a compound in the laboratory; rather does psychological analysis consist in the focusing of his attention on one ingredient of a conscious process to the exclusion of the rest. The analysis is ideal in that the ingredients are imaginatively not actually separated. On the other hand, the processes of logic are, in the context of the mental processes of the individual logician, psychological occurrences susceptible of psychological treatment. The attempted divorce between logic and psychology has had disastrous consequences, particularly for epistemology. Epistemology has tended to ally itself with logic with the consequent neglect and disparagement of relevant psychological considerations. But epistemology is a barren and formal discipline unless it incorporates the results of psychology. Especially is it true that the psychology of perception provides the only possible point of departure for an epistemology of perception. The sense datum theory if judged psychologically false cannot claim to be logically or epistemologically true.

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In repudiating atomic sense data, and the entire mechanism whereby they are compounded into perception, I am not denying the legitimacy of the analytical method as applied to perception, but merely proposing the substitution for the quasi-physical analysis of perception into atomic sense data of a type of analysis better suited to the subject-matter. All analyses, except those performed in the chemical and physical laboratories where compounds and mixtures are actually separated into their elemental constituents, are intellectual and ideal. Analysis as employed by the psychologist or the epistemologist, consists in the focusing of attention successively on the ingredients of a conscious process. The ingredients may be imaginatively isolated but they are not actually separated. No sophisticated psychologist believes that he can take a complex mental occurrence, say an emotion or an act of perception, and by some feat of mental chemistry precipitate out one of its ingredients in its psychological purity. His analysis consists in the selective attention to and the imaginative representation of aspects of the conscious experience which can never, in fact, be isolated.

As the first step in the present epistemological enquiry I shall undertake an ideal analysis of perception. The percept will in the first place be analysed into its sensory and non-sensory or interpretational components, and then each of these will in turn be subjected to further analysis; the sensory into visual, auditory, gustatory, olfactory, and somaesthetic sensations with their peculiar quality, intensity, and the like; the interpretational into various inferences and constructions. The sensory factors in perception will be discussed in the present chapter; the complicated inferential and constructional aspects of perception will be dealt with in the next chapter.

Perception, which I have adopted as the unit of cognition, is a structural whole having a sensory nucleus and an interpretational fringe. The data of one sense frequently preponderates in the nucleus of the perception—as when I visually

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apprehend a distant landscape but receive no other sensory stimulation from it or hear a locomotive whistle before the train has rounded the curve and become visible, but ordinarily the sensory nucleus results from the combined stimulation of several senses, sight and hearing or sight and touch or any one of an indefinite number of sensory combinations.

The first step in perceptual analysis consists, then, in discriminating the contributions of the several senses. This discrimination is for the most part obvious and familiar, but at certain points difficulties are encountered, as, for example, in the differentiation of chromatic from achromatic vision and in distinguishing taste from smell or pressure from pain. Frequently the analysis cannot be accomplished by psychological inspection alone but requires the aid of the physics and physiology of sensation. Even more serious difficulties are encountered in the analysis of such features of sensations as quality, quantity, intensity, extent, duration, and the like, which cut across the several senses and which are so fundamental to psychology that they may properly be called "dimensions" of consciousness or psychological categories. Although no one of these sensory categories is logically more fundamental than the rest, quality is the most obvious and impressive. Qualitative differentiation exists both between the sensory presentations of different senses and also within the same sense. The radical discrepancy between colour and sound as well as the less radical differences between various colours and between various sounds, equally exemplify the category of quality. Qualitative analysis, discrimination, and comparison are in the main confined to a single sense because the qualitative gaps between the senses are so wide as to render them qualitatively incommensurable. There is, to be sure, some evidence that all the senses are differentiations of a single rudimentary tactual sense and that, as a consequence, the data of the several senses range themselves into a single qualitative continuum. A further unification of the senses is indicated by synaesthesia—the fact that qualities of different senses appear

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to have inherent, non-associative affinities: for example, a given colour may, apart from association and conditioning, seem appropriate to a certain sound. But the evidence for such basic qualitative correlations between the senses is still fragmentary and consequently qualitative analysis must for the most part proceed within a single sensory compartment.

(1) The category of *quality* manifests itself in vision as colour—colour being understood in a broad sense to include the achromatic series shading from white through grey to black as well as the chromatic series with its four psychologically primary hues, red, yellow, green, and blue. Psychologically speaking, vision is not one sense but two senses, since there is an abrupt qualitative discontinuity between the chromatic and achromatic series. Visual quality may be described as the unique determination whereby the several hues differ from one another and by virtue of which they may be arranged in serial order. The order within each of the two visual series is determinable by means of simple psychological inspection. In other words, scrutiny and comparison of the individual colours alone suffice to determine their positions relative to one another in the qualitative continuum. There is a correlation between the frequency of the physical stimulus and the hue, but this correlation, while it corroborates, is not necessary for the initial establishment of the qualitative series. The discrimination and the ordering of our colour experiences are achieved at the psychological level and hence colour-quality is a purely psychological category. Quality in general is an exclusively psychological or phenomenological category,¹ and its ascription to physical objects is only by courtesy. The perceptual judgment, "That tree is green", is conversant solely with the tree as sensuously apprehended, and has no direct reference to the tree as a physical object which presumably consists of colourless atoms and electrons. The perceptual object affords at best a clue to the correlative physical object and thus a basis for an *indirect* knowledge of it,

¹ Cf. the treatment of quality in chapter VIII, p. 168

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but perception as such is conversant with phenomenal not with physical objects.

The category of quality is exemplified in auditory sensation as pitch—pitch being the auditory equivalent of colour. The analogy between colour and pitch is evident to direct inspection, but this phenomenological equivalence is corroborated by the fact that both colour and pitch are functions of the frequency of the stimuli—colour being correlated with the frequency of electro-magnetic waves and pitch with the frequency of the air waves. However, even without the corroborative evidence afforded by the similarity of physical stimuli, pitch is inspectively recognized as the auditory equivalent of colour, subsumable like colour under the category of quality.

The applicability of the category of quality to the data of senses other than vision and audition is a commonplace of the psychology of sensation. The distinctions between the four primary tastes—sour, saline, bitter, and sweet—are made by simple psychological inspection, and the corresponding stimulus differentiations—acids, salts, alkaloids, and carbohydrates—serve only to reinforce the qualitative or phenomenological distinctions. The stimulus parallelism between visual and auditory qualities breaks down in the case of taste, for here instead of variation of frequency, difference of chemical constitution is responsible for the quality of the correlative sensations. It is significant that failure to find frequency as the stimulus-correlative of gustatory quality in no way destroys our confidence in the correctness of the phenomenological analysis of taste-qualities.

The psychology of smell, which is still in its infancy, has not as yet achieved a scientifically adequate classification of olfactory qualities. Smells are now crudely classified according to the various classes of objects which produce them, such as fruity, spicy, resinous, and burned. The qualitative distinctions do exist and there is no reason why further research and greater refinement of analysis should not discover a scale of olfactory

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qualities comparable to the visual and the auditory. Here, also, a more complete knowledge of the physical and chemical character of the olfactory stimulus may be expected to guide and confirm the inspective, psychological analysis.

In addition to the *sensa* originating in special sense organs, there is a heterogeneous residue of sense qualia grouped together under the heading of bodily or organic sensations. The psychologist has discovered here a qualitative richness of sensations of pressure, fatigue, cold and warmth, hedonic sensations, etc., the analysis and cataloguing of which is not necessary for the purposes of the epistemologist, whose sole concern is with the fact that the category of quality prevails here too. So essential is the category of quality in the sphere of the phenomenal that it is the primary dimension of the sensuous while intensity and the rest are sub-dimensions of quality.

(2) *Intensity*, the second dimension of our sensory experience, is never found disassociated from quality. There is no pure unattached intensity but only the intensity of a particular quality; for example, the brightness or dullness of a blue patch, the loudness or faintness of a sound, and the acuteness of a pain. If the psychological categories were arranged in a hierarchy, quality would be placed above intensity in the scheme. Quality and intensity are so intimately united that psychological observation, unassisted by stimulus correlation, would in some cases have the greatest difficulty in differentiating them, but the distinction is, nevertheless, phenomenologically valid. The distinction is not psychologically less real because its discernment is sometimes possible only by clues derived from the nature of the correlative stimulus. Intensity is, like quality, an exclusively psychological category, having no physical application. In the description of physical phenomena, the terms "degree" and "intensity" are often employed, but the physical attributes denoted by these terms will, I think, always be found to be quantitative and not qualitative. Thus the ascription of intensity to physical objects is mere psycho-

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logical metaphor, and the expression intensity of stimulus is a complete misnomer. What the term actually designates is the "amount" or "energy" of the stimulus, the physical correlate of psychological intensity, and not physical intensity properly speaking.

Intensity is a concomitant of quality throughout all the divisions of sensory experience. The intensity of a visual experience is the brightness or dullness of the colour and is distinguishable from its quality since the shade of colour remaining constant, the brightness may vary. The brightness, however, cannot exist apart from some colour, interpreting colour to include the achromatic as well as the chromatic shades. Similarly, auditory intensity, consisting of loudness and faintness, varies independently of auditory quality or pitch and yet the intensity of sound is never entirely dissociated from pitch.

(3) *Extent* or *extensity* is the third category of our sensuous experience. Like intensity, it is a sub-category of quality, for extent is always extent *of* a quality. On the sensuous level there can be no such thing as pure, quality-less extent—this notion is, as we shall see, a product of abstraction and imaginative construction. Extent refers only to the primitive spatiality of our sensations and not to the spatial properties and relations of perceptual objects—much less to the elaborate spatial constructions of physics and geometry. There are three distinct levels of spatiality: (i) the sensuous, (ii) the perceptual, and (iii) the conceptual, and of these it may be said that the conceptual depends upon and is derived from the perceptual and the perceptual in turn arises from the sensuous. Extent refers only to the lowest and most primitive of the manifestations of spatiality from which the other two are derived.

Extent is a pervasive category of the sensuously given, that is to say, all sensory presentations without exception have a certain spatiality which may vary from the vague and undifferentiated voluminosity of our organic sensations to the fully articulated spaces of touch and sight. So disparate are

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these various manifestations of the primitive space-quality that it is by no means easy to find a single formula descriptive of spatiality as such; yet they are recognized as instances of spatiality, even though we have no clear notion of the common property by virtue of which all sensations are spatialized. What, for example, are the common properties of extensionality shared by two experiences so qualitatively diverse as a green colour-patch and a surface rough to the touch? A comparison of these apparently incommensurable experiences reveals two things in common: (i) there is within each an internal differentiation into discrete parts, and (ii) these parts constitute a continuum. The green patch consists of psychologically discriminable elements which constitute an extensional continuum. A qualitatively homogeneous experience of green, with no internal differentiation, is a psychological impossibility, for such a pure experience of green would be a non-spatial essence, having quality and intensity without extent. Similarly, the rough tactual surface is a mosaic of discrete rough "points" each differing qualitatively from its neighbours. The qualitative variations from point to point are slight, consequently a single quality of roughness seems to pervade the whole surface. Tactual extent arises from just this peculiar distribution of discrete tactual qualities. The sensory continuum here described is the prototype of the highly abstract continua of mathematics. The discrete sensory parts become by abstraction and idealization the points of geometrical space and the sensory continuum serves as a model for the abstract continuity of geometrical space.

The physiological basis of the internal differentiation of the sensory fields is a difference of sensory receptors stimulated. The diverse parts of the green patch are produced by a stimulation of different portions of the retina. The several elements in the touch manifold are correlated with parts of the cutaneous area stimulated. Physiological psychology is not yet able to give a complete explanation of our ability to distinguish sensations emanating from different parts of the body. There are

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recognizable differences between sensations of touch coming from the finger-tips and sensations produced by the same object in contact with the back of the hand. The "same" quality of roughness feels somewhat different to two different portions of the skin, which can only mean that there is a slight qualitative difference between the two sensations of the "same" quality. Some form of the "local sign" theory must be invoked to explain our ability to localize our sensations. The sensations originating in different portions of the skin or of the retina undoubtedly differ among themselves qualitatively or intensively or both. The sense of spatial continuity, which is an integral part of the experience of space, is due to the qualitative and intensive approximation of sensations from contiguous parts of the skin or retina. The difference between "local sign" qualities of nearby points is slight in comparison to their basic resemblance, but it gradually increases with an increase of distance. Thus there emerges within a sensory continuum the conception of "psychological distance", definable in terms of the degree of similarity or dissimilarity of points in a sensuous manifold, and this qualitatively discerned distance is the prototype of physical and geometrical distance.

(4) *Duration or protensity*, the fourth "dimension" of our sensory experience, closely parallels sensory extent. Every sensation is both spatial and temporal; it is spread out and it also endures. The essential feature of both duration and extent is the felt continuity within a qualitatively differentiated experience. Duration like extent presupposes qualitative multiplicity—in the one case, a multiplicity in succession, in the other, a multiplicity in coexistence. Durational continuity is further analogous to the continuity of a spatial spread in that the continuity in both cases involves a basic qualitative similarity subject to the gradual encroachment of dissimilarity. A sense quality endures only because of the basic resemblance between its successive states—a resemblance which does not preclude gradual qualitative change. Indeed the change is as indispensable to endurance as is the underlying similarity.

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If the field of consciousness contained only a single, homogeneous and unchanging quality, duration would have no meaning. Although duration is most readily apprehended in qualitative change, changes of intensity or extent of sense qualia are also durational. The increase or diminution of the brightness of a colour, the expansion or contraction of a colour-patch, exemplify duration as much as does the change of the colour itself. Duration, however, is never found in complete divorce from all quality.

Duration differs in one rather important respect from extent. Extent, although it is a property of every sensuous experience, varies greatly from one sense to another with the consequence that there are as many spaces as there are senses. Duration, however, is far more homogeneous in its various manifestations; there is only one duration which pervades our entire sensuous experience—indeed our entire conscious life. The durational quality of sounds, of colours, and of emotions are all felt to belong to the one durational flow. Time permeates the whole of consciousness, but space is tied closely to the individual senses. Consequently the intellectual constructions required in framing the conception of an abstract unitary time are far simpler than the corresponding constructions for space.

The foregoing analysis of the sensuous elements in perceptual experience, though largely a restatement of familiar psychological material, is of considerable epistemological significance, affording, as it does, the basis for one of the main types of knowledge, namely, inspective or sensuous cognition. Inspective knowledge consists of all judgments which can be made concerning the quality, intensity, extent, and duration of sense qualia on the basis of simple inspection alone. Inspective knowledge differs from perceptual knowledge in that it is not concerned with objects but merely with qualities in their character of presentational immediacy. It represents the phenomenological level of experience, and as such involves a minimum of interpretation. The proposition, "This is a red patch" or "This red is brighter than that red", are inspective

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propositions, whereas the proposition "This is a red apple" is a perceptual proposition. Of course, even the terms "this" and "that" and "patch" have some perceptual, that is to say "objective", connotations, but they are negligible. /

Inspective knowledge must also be distinguished from introspective knowledge with which it is frequently confused. The inspectional apprehension of sense qualia differs from introspection in that it has no concern with their "subjective" status or their place in the stream of consciousness. The sense qualia are scrutinized in and for themselves without regard to their participation in perceptual objectivity on the one hand, or introspective subjectivity on the other. The question of the mental or physical status of the sense qualia is completely irrelevant at the level of inspection. The propositions, "This is a red sensum" and "This emotion is more intense than that emotion" are inspective propositions in contrast to the propositions, "I have an experience of red" and "I am angry", which are introspective. There can be no introspection without inspection, but inspection is not necessarily introspective. The failure to distinguish between inspection and introspection is responsible for much confusion prevailing in psychology and epistemology. The difficulties and paradoxes of self-knowledge which are supposed by many to vitiate introspection are inapplicable to inspection. Inspection yields a large body of empirically sound truths: indeed all empirical truth has in the last analysis an inspectional basis.

Inspectional propositions are possible with respect to each of the dimensions of sensory experience. (1) The simplest inspective propositions of quality merely attach a qualitative label to a sensum. "This is a red patch", "This taste is sweet", are typical examples of such simple descriptive propositions. Even propositions of this most elementary type involve some conceptualization, for the recognition that a colour patch is red or a taste sweet presupposes a rudimentary classification of sense qualities. A purely inspective apprehension of a sensum, if such were psychologically possible, would be

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ineffable. Nevertheless, it is quite justifiable to call the propositions just cited inspective, because they approximate inspection as closely as intellectual discourse permits.

A somewhat more complex type of inspective proposition asserts the coincidence of two or more sensory qualities. For example, the proposition, "This sweet taste is pleasant", is resolvable into the two simple statements, "This taste is sweet" and "This same taste is pleasant". So completely fused are the two *sensa*—the one described as "sweet", the other as "pleasant"—that they may almost be regarded as two aspects of one and the same *sensum*. Indeed if, as has been suggested above, pleasantness is not an independent quality, but merely a quality of a quality, the proposition in question expresses the amalgamation into a single *sensum* of the two qualities sweet and pleasant.

There is yet another subvariety of inspective propositions of quality, namely, propositions asserting similarity or dissimilarity between qualities. Similarity between qualities is an inspective relation, in that it is discernible by direct inspection and comparison. The relational proposition, "This red resembles that red", is on a par with the purely qualitative proposition, "This is a red *sensum*". Similarity is an inspective relation, indeed, it is one of the few relations which is apprehensible by simple inspection and comparison of qualities.

(2) Inspective propositions of intensity, such as "This red is bright", "This sound is loud", "This pain is dull", "This heat is tepid", employ approximative adjectives to describe the degree of intensity of a quality. The relation between a quality and its intensity is, as has already been indicated, very intimate—in fact, the act of apprehension of a quality is *ipso facto* the apprehension of its intensity. Consequently the relation—if it may properly be called such—between a quality and its intensity is discernible by direct inspection. To be sure, propositional description of intensity, as of quality, requires at least a minimum of conceptualization. The intensive adjectives "bright", "loud", "dull", "tepid", etc., are con-

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ceptual descriptions of the degree of intensity of its quality in terms of a rough scale of ascending intensities within a certain sensory medium. But the conceptual element may be disregarded for the time being, since our present concern is with intensity solely in its character of presentational immediacy.

Comparative judgments of intensity, like judgments of qualitative resemblance, rest upon inspection. I can judge that of two reds given simultaneously one is brighter than the other, or that a toothache is more acute than a simultaneous headache. Usually, of course, the comparison is between a memory image and a sensation or between two memory images rather than between simultaneously given sensations, but the comparison of intensities in all such cases is equally direct and inspective. Whether we compare sense data or image data, the relations discerned belong to the sphere of presentational immediacy.

(3) Inspective propositions of extent—the most rudimentary type of quantitative judgments—describe the size, shape, and relative positions of sense qualia in the sensory field by means of approximative adjectives. Of this type are assertions that a given red patch is larger or smaller, of greater or lesser extent than some other colour patch, etc. Conceptualization makes its encroachments so rapidly under the category of quantity that a sharp line of demarcation between inspective and conceptual judgments of space cannot be drawn and thus in any given judgment the inspective and conceptual elements have to be carefully balanced against one another to determine which preponderates. For example, the statement, “This patch of red is at the centre (or the periphery) of the field of vision”, is, despite its geometrical language, essentially and predominantly inspective. The decision concerning the inspective or non-inspective character of any proposition hinges on the question: “Is the proposition *about* the sensuously given and *directly* verifiable by reference to it?”

Judgments concerning certain rudimentary spatial relations

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obtaining usually within a single sensorium are inspectional. The statements: "This red and this blue are juxtaposed" and "A certain ring of blue encircles a patch of red" are verifiable by direct inspection. Obviously all statements about the relative positions of objects in a unitary perceptual space belong to a higher level of cognition. To say that one sensum is to the right or left, above or below another sensum is trans-inspectional, since it brings to bear upon the visual field the axis of bodily reference which is known by muscular and kinaesthetic sensations. Inspectional statements of direction are, then, restricted to those which require only the rudimentary spatial sense discernible within a single sensory field without the assistance of the more precise spatial orientation achieved by inter-sensory correlations.

(4) Inspective propositions of *duration* describe the immediately apprehended duration spreads of our sensa. Since felt-duration, as has been noted above, cuts across the sensory boundaries, the range of inspective propositions of duration is unrestricted to a single sense field. For example, inspection alone, without the assistance of conceptual construction, discloses that a given sound lasts longer than a concurrently given visual experience. The comparison of overlapping duration-spreads is inspectional whether the enduring qualia are of a very brief duration embraced within the "specious present" or whether—as is usually the case—they extend beyond the psychological present, so that their comparison is effected through primary memories conserved in the present moment. In either case the durational judgment depends for its ultimate verification upon direct durational comparisons achieved within the "specious present".

The immediacy of inspective knowledge is not, as might be supposed, a guarantee of its absolute accuracy and certainty, for error may intrude even between the inspection and its propositional articulation—a type of error which may be described as "inspectional illusion". The incorrect reporting of what is sensuously given usually results from reading inter-

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pretations and constructions achieved at higher levels of cognition into the sensuous content. Accurate inspection requires the utmost concentration of attention in order to discern "the given" as given and to exclude all extraneous projections and interpretations. The perceptual apprehension of objects is, as has been repeatedly affirmed, the cognitive level most natural to the mind, and consequently sub-perceptual cognition is achieved only by sustained and concentrated effort to suppress perceptual interpretation. To become a competent inspectionist, that is to say, one who reports merely what he finds and not what through association and habit he has come to expect, requires constant practice and the utmost restraint. The phenomenological attitude of mind demands on the one hand a passive receptiveness, and on the other an alertness of attention, a combination which is by no means easy to cultivate. To be a successful introspectionist one must recapture a certain innocence of mind which paradoxically enough is attainable only by one who is psychologically and epistemologically very sophisticated. The introspective, or rather inspective, judgments of the ordinary man—preoccupied as he is with perceptual objects—are as unreliable as are those of the scientist for whom the theoretical constructions of physics have interpenetrated with the sensuous data of immediate experience. The artist having learned to transfer to his canvas the surface appearances of things is better qualified than either the scientist or the proverbial man in the street for the exacting tasks of inspective analysis. The term "aesthetic surface", by which Professor Prall designates "the attitude peculiar to the artist and the appreciator of art",¹ may be appropriated by the epistemologist to describe the domain of inspective cognition. "Aesthetic" in this epistemological context reverts to its etymological meaning, namely, pertaining to "feeling" or to the immediately given, the sense in which it is employed by Kant in his *Transcendental Aesthetic*. Just as the function of the painter is to recapture his sensuous

¹ Cf. D. W. Prall, *The Aesthetic Judgment*, especially chaps. II and III

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innocence and to depict things as they appear rather than as he knows them to be, so the first task of the epistemologist is to report the given as it is without the elaborate interpretative constructions of common sense and of science. Little wonder, then, in view of the inherent difficulties of introspection, that psychologists have despaired of attaining scientific results by this method and have in their desperation turned from genuinely psychological to behaviouristic and physiological investigations. There is, however, no reason why introspective—or rather inspective—enquiries should not be successfully pursued and their results formulated in exact scientific terms. The formal objections to introspection—such as, for example, the contention that *self*-cognition is impossible—are inapplicable to the inspective scrutiny of the given. The really conclusive answer to the critics of an introspective psychology is, however, the exhibition of a body of scientific knowledge achieved by the methods of direct observation of the given, and it is unquestionably true that psychology has achieved some genuine knowledge of this type. The Titchenerians and the Gestaltists may be cited as psychologists who have successfully employed a method which is essentially inspective. Titchener explicitly drew a distinction between inspection and introspection¹ and recognized that many psychological investigations are on the inspective level. His inspectional technique is of especial interest since he was insistent that the introspector—or rather the “inspector”—should be not an ordinary subject but a psychologist especially trained to this type of observation. His experiments required the co-operation of two psychologists—the one in the rôle of experimenter devises the experiment and presents the stimuli to the other who only observes and reports the content of his immediate experience. This method, despite the practical and experimental difficulties which beset it, is theoretically sound. *Gestalt* psychology likewise employs an inspective technique; the Gestaltist is convinced that “direct experience” is not only

¹ E. B. Titchener, *A Text-Book of Psychology*, pp. 19 ff

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a legitimate sphere of investigation but, in fact, is the only possible point of departure for psychological as well as for every other type of scientific investigation.¹ Even the behaviourist when he is studying the higher forms of human response makes an indirect appeal to inspection, even though he states his results in the language of stimulus and response, for he unavoidably relies on the ability of the human subject of a behaviouristic experiment to scrutinize the data of sense occasioned by the controlled stimulus and to report his findings—a report which the behaviourist is pleased to call a response. But what is even more important, the behaviouristic experimenter himself in observing and recording the responses of his subject is relying on his powers of inspection. The present emphasis on the inspective elements in psychology is not intended to exclude the possibility of an introspective psychology as well. The nature of introspection, in contradistinction to inspection, is postponed until Chapter V, where perceptions, emotions, sentiments, the self, and other ingredients of the stream of consciousness are considered as “objects” of an introspective cognition. In the present chapter, however, I have confined my attention to that rudimentary type of cognition which first inspects and then describes the properties of the sensuously given.

The results of the foregoing analysis of sense qualia and their rôle in perception may be summed up as follows:

(1) Perception, that is to say the integrated apprehension of an object of sense, is the unit of knowledge and the sense data are merely analytical abstractions from the unified perception which have no independent existential status whatsoever. Sense datum epistemologies are vitiated by the initial false assumption of the atomicity of the sense data; from such a starting-point no really valid inferences and constructions are possible and thus scepticism and solipsism are inevitable. ✓

(2) The percept, although not resolvable into sense data,

¹ Cf. Wolfgang Kohler's defence of psychology as the science of “direct experience”, *Gestalt Psychology*, especially chaps. 1 and 11

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contains sensory ingredients the analysis and classification of which is the first task of epistemology. Sense qualia are obviously classifiable according to their sensory origin as visual (achromatic and chromatic), auditory, gustatory, olfactory, and somaesthetic. There are wide qualitative gulfs between the different senses and, at least in the present state of our psychological knowledge, there is no indication that sensations of the several senses admit of arrangement in a single unbroken series as do, in certain cases, the qualities of a single sense. This qualitative incommensurability between the senses I shall hereafter call the principle of the heterogeneity of the senses. The qualitative gaps between the senses do not, however, as I shall seek to show in the next chapter, preclude certain extremely important correlations between the senses—correlations without which our experience would remain so many insulated sensory compartments.

(3) Cutting across the several sensory compartments are the four categories or “dimensions” of sensory experience: quality, intensity, extent, and duration, with respect to which a full and complete description of any sensation may be given. The essential correlations between the senses upon which perception depends relate to one or more of these dimensions of the sensuous, and consequently they play an indispensable rôle in the inferential side of perception which is the subject of the next chapter.

CHAPTER III

The Perception of "Things"

THE inspective awareness of sense qualia, which was described in the last chapter, is no doubt a rudimentary type of cognition, but since it is doubtful whether sense data can exist apart from or can be apprehended except in their perceptual context, integrated knowledge of objects first emerges with perception. Perception defined as the apprehension of common objects—the visible, tangible, audible “things” of ordinary sense experience—is the cognitive unit in relation to which sensation is precognitive or subcognitive. To characterize sensation in this way is not to deny the possibility of genuine knowledge about sense data, their properties and relations, but merely to emphasize that such knowledge involves selective abstraction from the total perceptual apprehension of phenomenal objects. Perceptual experience is analysable into and is an interpretation of its sensuous ingredients. Moreover, perception underlies and preconditions the higher types of cognition, namely, memory, scientific knowledge, as well as self-knowledge and knowledge of other selves. Perception is the unit of cognition in that it is the most elementary form of knowledge of objects, from which all other forms of objective knowledge are directly or indirectly derived.

The first task of the present chapter is that of describing the function in perception of the sensuous manifold. There is a duality within the percept between the sensory ingredients just isolated and described and the interpretational factors to which we shall now direct our attention. Interpretation includes not only conscious inferences and constructions, but every kind of organization, structure, and meaning which

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pertains to perception—in short, everything except the bare data of sense. The non-sensuous or interpretative processes of perception are varied and intricate. They include such processes as the selective discrimination of attention, the imaginative projection of ideal elements, sensory correlation through association as well as various conscious and unconscious inferences and constructions. An attempt will be made to discriminate such interpretative processes and to arrange them if possible in a single concatenated series, in which each stage serves as the basis for its successor and the entire series culminates in the fully developed perception. It cannot, of course, be claimed that every actual perception is generated by just these processes in a specified order, but merely that all of them are somehow involved in any fully articulated perception.

Any actual perception, the perception of a tree, a chair, or a table, may be taken as the starting-point of the investigation of perception. With respect to any such perception the question to be asked is: "What associative and interpretative processes, conscious or unconscious, are involved in this fully developed perception?" The procedure is analogous to Kant's retrogressive argument from experience to the conditions of its possibility; but whereas Kant's argument is logical and presuppositional, the present investigation is psychogenetic and empirical. When the interpretational operations of perception are actually and consciously performed in the individual act of perception a psychogenetic account is forthcoming; but when, as is frequently the case, the constructions are tacit and unconscious, they admit only of hypothetical and problematic reconstruction. Of the latter, it can only be said that the completed perception is of such a character that it is as if it had been brought into being by such and such operations. The justification of this hypothetical procedure is that even though the operations may never have actually been performed in the individual act of perception, their postulation may, nevertheless, clarify the nature and structure of the completed perception. With these preliminary explanations, I proceed to

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the actual description of the four principal interpretative operations involved in perception.

(1) *Qualitative discrimination*, the most rudimentary of the interpretative processes of perception, is the carving of qualitative "blocks" out of the continuum of experience. Every act of perception involves in some degree the kind of qualitative analysis of the sense-manifold systematically described in the last chapter. The recognition of lines of demarcation both between the different senses and within each sensory compartment is a prerequisite of perception at every level. The preliminary analysis of experience yields the elements with which the subsequent synthetic processes of perception operate.

The carving of qualitative "blocks" from experience is by no means arbitrary, but is always a selective activity of attention guided by the natural lines of qualitative cleavage within a sensory continuum. The qualitative cleavages are far from definite, and it is frequently impossible to define the exact boundaries between one sensory "block" and another which is adjacent to it. But the contours can always be defined with sufficient exactitude for the purposes of perceptual construction.

A sensory "block" may be defined as the maximum qualitative expanse which is throughout its extent approximately homogeneous. The "sensory block" enjoys many advantages over the sense datum as the unit in the sensory field. The sense data of contemporary epistemology are simply the "ideas" of British Empiricism completely dementalized, but retaining the discreteness and atomicity of their mentalistic prototypes. Certainly inspection of the sensory fields does not disclose any such simple, indivisible, qualitative elements, and we can only suppose that they represent the entification and hypostatization of *minima sensibilia*. The sense data of epistemology are indeed the last vestiges of an out-moded sensationalistic psychology. But even if one were to admit the actual existence of atomic sense data, their compounding into

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perceptual objects still remains unintelligible since sense data in mere juxtaposition would remain just so many sense data, and their compounding into an integrated perceptual object presents insurmountable difficulties.¹ The "sensory blocks" which are discriminable within the continuum of experience, unlike atomic sense data, are fluid, sensory wholes, which harmonize with the modern organic and functional view of mind. ✓

The qualitative cleavages within the visual field are the most pronounced and hence more readily traced than in the other sensory fields. The visual field is a mosaic of colours between which lines of demarcation can be drawn with considerable precision. The silvery patch, which is the visible appearance of my ash-tray, stands out against the brown background of my desk. To be sure colour differences do not always coincide with the boundaries of objects, since there may be variegated colours within the contour of an object, while on the other hand a single colour may spread over a multiplicity of perceptual objects. Hence the delimitation of objects requires not only the demarcation of colours within the visual field, but also depends upon correlation of visual cleavages with those of other senses, notably touch, also upon the observance of the joint motion of a collection of colours and upon innumerable other factors. It remains true, however, that a differentiation of colour is the first clue to the boundary of objects in the visual field. The discrimination of qualitative patterns of touch is almost as precise as of vision, and differences of texture and of heat and cold are frequently found to coincide with those of colour and thus to determine the boundaries between objects. For example, the surface of my ash-tray feels both smoother and colder than the surface of the air and desk which surround it. Touch and vision in collaboration are, because of the definiteness of their qualitative demarcations, principally concerned in the perception of objects, but the

¹ Cf William James's argument against the self-compounding of mental states, which he offered only as a refutation of psychological atomism, but which is also an indictment of all sense datum epistemologies James, *Principles of Psychology*, vol 1, pp 158-62

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other senses make their contribution also. The boundaries between objects may sometimes be determined by sounding, that is by noting the varying qualities and intensities of the sounds emitted by the successive striking of the surfaces. The metallic ring produced by my ash-tray when I strike it with my pen is very different from the dull thud emitted by the desk on which it lies. The preliminary mapping of the fields of the several senses, following the lines of qualitative differentiation, is only a first approximation in the delimitation of objects and the provisional boundaries often have to be drastically revised through the correlation of the several senses, but it affords the indispensable foundation for the subsequent constructions of thinghood.

(2) *Sensory correlation*, the second operation in perception, is the discovery of *de facto* correspondence between the "sensory blocks" or patterns derived from different senses. This correlation cannot be accomplished by mere examination and comparison of the items in the different sensory fields because, as has been emphasized in the last chapter, the qualities of the several senses are qualitatively incommensurable. That the fields of the several senses are so many virtually water-tight compartments is an inescapable truth of epistemology. The principle of the heterogeneity of the senses is the recognition that there are no natural and intrinsic affinities between the qualities of different senses discernible by direct inspection, and that consequently all inter-sensory correlations are *de facto* associations which can ordinarily be established only by indirect and inferential methods. Between the qualities of one sense and those of another there exist no uniform one-to-one correspondences such that, for example, every degree of surface texture is conjoined with a definite and determinate shade of colour. Furthermore, a surface may be tactually homogeneous and visually heterogeneous as when a large area of uniform texture is painted in stripes of different colour. But such discrepancies between the senses are the exception rather than the rule, and if our senses were more

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acute they would tend to vanish altogether. If, for example, our sense of touch were sufficiently developed we would be able to discriminate tactually between the red and the green pigment covering the "uniform" surface and would be able to feel as well as see the striped areas. Only if our senses possessed a sensitivity far surpassing that which they actually have, would there be a perfectly uniform one-to-one correspondence between the senses such that from its surface-feel we might infallibly predict its visual appearance, its sound-qualities, and all the rest. If the diverse sensory fields were completely isomorphic, perception would be enormously simplified and the correlations now so arduously achieved could be entirely dispensed with; but as it is, almost any quality of one sensory field might conceivably be found in conjunction with any quality of another. Some regularities of correlation do, in fact, exist: smooth surfaces are usually bright and shiny, rough surfaces lustreless. Were it not for the possibility of some such correlations between the senses, our experience would to the end remain divided into water-tight sensory compartments, and the conception of a single object simultaneously present to the several senses could never have emerged.

The unification of heterogeneous sense qualities into an integrated perception, although performed unconsciously and without effort in any single act of perception, is conditioned by the most elaborate and intricate sensory correlations. We are able to bring together diverse sense qualities into an object only because of the cumulative effect of correlations arduously discovered in childhood and infancy. When I now perceive my ash-tray the diverse qualities seem to belong so naturally together that I tend to lose sight of the complex associative and inferential processes without which I would now perceive not an ash-tray but a congeries of heterogeneous sense qualities. It has already been argued that simple inspection of the silvery circular patch, the smooth circular¹ surface, and the metallic

¹ The same adjective "circular" is here employed to describe the shape of the visual and tactual qualia, but, of course, at this stage of the argument

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sound produced by striking the ash-tray would never suggest a connection between them. The three sensory experiences are as qualitatively dissimilar as a headache, the taste of salt, and the odour of perfume. Furthermore, the correlation cannot be established solely on the basis of the conjunction of the diverse data, although undoubtedly such conjunction aids materially in effecting a correlation. Suppose $a, b, c, d \dots$ represent the several qualitatively differentiated "blocks" or patches in the visual field, while $p, q, r, s \dots$ are "blocks" in the tactual series. The parallel apprehension of these two series suggests, but does not conclusively establish, the intersensory correlation of a with p , b with q , etc. While a single instance of parallelism between the data of two or more senses is insufficient ground for their correlation, the repeated conjunction of similar data greatly enhances the presumption of a genuine sensory correlation. Thus the frequent—though not constant—conjunction in the past of bright, silvery patches and of smooth, cold surfaces, embodied in the concept "metallic", conditions the present perception of the ash-tray. Likewise, the correlation established by past experience between circular, oval, or other curved colour patches and felt curvature, which is inspectively different from sharp, jagged, or straight-edged contours, is symbolized by the concept "curved". The intersensory concept "curved" facilitates the identification of the visual and tactual appearances in the perception of the ash-tray. The perception of the ash-tray is thus conditioned by a number of previously established correlations of pairs of similars. Each of these earlier correlations has been inductively established by repeated conjunction of similars. The correlation between the visual series a, b, c, d , etc., and the tactual series p, q, r, s , etc., is confirmed by the fact that in the past $a', a'', a''' \dots$ (a set of sense

the word "circular" means two radically different things, for the shape seen and the shape felt have no intrinsic resemblance and the identification of the two as both circular depends upon a sensory correlation which has not as yet been validated

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qualities resembling a) have been frequently conjoined with p' ; p'' , p''' . . . respectively (a set of sense qualities resembling p), and similarly for the other members of the two series. These qualitative correlations give rise to adjectival concepts like "metallic", "curved", "liquidous", etc.—concepts which, because they cut across several senses, aid materially in the integrated perception of things. Without such concepts, all intersensory correlations would have to be established *de novo* with each new perception.

Sensory correlation is greatly facilitated by the fact that the organs of one sense are in the field of other senses and can be apprehended at the very time when they are performing their sensory function. The importance of this obvious fact of sensory experience, perhaps because it is so extremely obvious, is easily lost sight of. When my hand explores the surface of my desk with the ash-tray and other items resting on it, I not only have a series of visual impressions accompanied by a tactual series, but I also actually see the motion of a system of colour patches which I have learned to construe as my own hand and which is at this very time functioning as the organ of sense for my tactual sensations. This ability of organs of sense to observe one another in action while it contributes little to the general theory of sensory correlation, does assist materially in achieving particular correlations. It would no doubt be theoretically possible to affect a correlation between the several senses through the mere concomitance of the diverse data even if the mechanism of the sensory apparatus prevented the organs of one sense from apprehending the organs of another sense, yet, as our senses are actually constituted, the mutual apprehensibility of the sense organs breaks down the barriers between the different senses and thereby enormously expedites sensory correlation and the resultant perception of "things." As regards the mutual perceptibility of the organs of sense, it has been argued, ingeniously but perversely, that the very presence in the visual field of the organs of touch is, far from being an aid, an actual hind-

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rance in the correlation of visual with tactual data, for at the moment when the hand is in contact with the surface of the object of sense, that very coloured area with which the surface is supposedly correlated is momentarily obscured from view. When I explore the surface of the desk with my hand, following its movement with my eye, the position I feel at any time is obscured from view by the interposition of my hand. How, it is asked, can the *absence* of a given colour area be the ground for its correlation with the *presence* of the sensation of touch? The obvious answer to the argument from the invisibility of the felt surface is that the correlation of a particular colour patch with a particular hard surface does not require the simultaneous apprehension of the two. No doubt the initial establishment of general correlations of sensory qualities depends upon their co-appearance, so that if the organs of one sense invariably obscured their correlative data in other senses, their sensory correlation would perhaps be precluded, but, fortunately, reciprocal sensory interference is the exception rather than the rule. The correlation of sight and sound affords a typical instance of non-interference; see the vibration of a bell and almost contemporaneously hear its ring. But a general scheme of visuo-tactual correlation can be achieved only by indirectly correlating a "given" tactual sensation with an obscured colour patch. When my hand covers the coloured patch which I formerly saw, I need not assert the actual existence of the colour patch beneath my hand. All I mean by the correlation is that *if* I remove my hand the colour patch will reappear, in other words the colour patch is a fairly reliable clue to the hard surface and *vice versa*. My inability under these conditions simultaneously to apprehend the visuo-tactual correlation is not surprising, since it is in accord with the familiar generalization that opaque objects obscure all objects beyond them in the line of vision. Thus the correlation between an absent colour patch and a present touch-surface far from being an anomaly is in accord with everything we know about the nature of vision.

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In short there is in the last analysis no other ground for sensory correlation except conjunction, and even the most involved and indirect correlations are traceable to an original co-appearance of diverse qualities. Qualities of different senses are correlative simply because they are found together. Critics of associative correlation have objected to the procedure on technical grounds—and no doubt the procedure does encounter certain theoretical difficulties—but there seems to be no alternative method of achieving sensory unification unless, to be sure, one postulates an original and inherent connection between the data of diverse senses, and this seems to be contrary to all the available evidence. Even if there were sufficient psychological evidence for a detailed and uniform synaesthesia, the fact that a certain quality of one sense always tended to evoke a certain and determinate quality of another sense would not establish the kind of sensory equivalence between the two which is requisite for perception. Synaesthesia and sensory equivalence are two very different kinds of inter-sensory correlation and there is no reason to suppose that the former is a guide to the latter. The associative correlation between the senses is thus indispensable to the unification in perception of qualities yielded by different senses. The principle of the heterogeneity of the senses, as enunciated in the last chapter, affirms the qualitative discontinuity between the several senses, and in order to account for the sensory correlations just expounded a complementary principle, the principle of sensory equivalence, must be postulated also. Beneath the qualitative dissimilarities between the senses, there exist structural parallels. Only by virtue of such sensory parallelism is the perception of one object through many senses rendered possible.✓

(3) *The synthesis of thinghood.*—The most essential interpretative process of perception is that whereby the diverse data are synthesized into the unity of a thing or object. Perception was initially defined as the integrated apprehension of objects and it is accordingly the main task of the epistemology

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of perception to show just how groupings of sense qualities are constituted into integrated things. The correlation of the sensory "blocks" which we have just described is in itself a process of unification which paves the way for the final integration of the sense qualities in accordance with the perceptual category of thinghood. The sensory correlation just described is an inter-sense unification; the synthesis of thinghood is both an inter- and an intra-sense unification. Expressed in the symbolism already employed, $a, b, c, \dots$ are homogeneous sensory blocks within the sensory field, S_1 ; $p, q, r, \dots$ are corresponding blocks within the field S_2 . Now by inter-sensory or horizontal correlation, a is paired with p , b with q , c with r , etc., and by intra-sensory or vertical unification a selection is made of the group of sensory blocks which "hang together" within each of the sensory fields. The final integration of the inter-sensory correlations and the intra-sensory groupings is the perceptual object. The thing as a perceptual object is nothing more nor less than a grouping of qualities, which cuts across sensory lines and which is governed by the natural cohesions among such qualities.

The perception of any common object, such as the book lying on the desk before me, illustrates the horizontal correlations and vertical groupings which together constitute the synthesis of thinghood. The book is so placed in relation to me that I can see both its blue cover and the white edges of the pages. The visual face which it presents to me is a combination of blue and white patches which are correlated with the characteristic grille texture of the cover and the parallel-line texture of the edges of the pages. The horizontal or inter-sensory correlations are mediated by such concepts as "grilled", "parallel-lined", "rectangular", and the like—concepts which are multi-sensory. By their aid the boundaries of the cover and of the edges of the pages of the book are delimited. The book as a whole is an integration of blue and white colour patches, of a certain uniform, felt roughness and of characteristic sounds produced by moving my finger-nail

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over the cover. This collection of colour, texture, and sound qualia is determined solely by their constant association—the mere fact that they are always in one another's company. When the blue patch belonging to the book changes its position relative to the surrounding brown patches which belong to my desk, the white patch moves with it and the rough surface of the book undergoes a corresponding change of position relative to the smooth-grained surface of the table. By manipulation and movement, I can verify the cleavages between objects which are first suggested only by qualitative differentiation.

Up to this point, we have spoken as though the percept consisted of a collection of sense qualities—*all* of which were actually given in sense at the moment of perception, which is, of course, far from being the case. It would no doubt be theoretically possible to have a perception all of whose ingredients were sensuously produced at the time of perception, but in all actual percepts imaginative ingredients supplement the sensuously given. This inclusion in the percept of imagined but now unsensed qualities on a par with the directly sensed qualities, I shall call imaginative introjection. Although the imaginatively supplied qualia may far outnumber the sense qualia, there must in every perception be a sensory nucleus—otherwise we would call the act not perception but instead memory or imagination. Perception was originally defined as the apprehension of objects *on the occasion of sensory stimulation*, and when the sensory ingredients are gradually eliminated the percept evaporates into a memory or an image. It is an interesting epistemological experiment to transform a percept into a memory by eliminating one after another the sensory ingredients. By simply closing the organs of sense or placing obstructions between them and the object, I can readily transform the percept of the book on the table before me into a memory of the book thereby retaining in the memory-image some of the vivid sense of "presence" which characterized the percept.

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There cluster about the sensory nucleus imaginatively reproduced qualities. By imaginative introjection, qualities which are not now sensed fill out and complete the total perception. The imaginatively supplied qualities may be qualities of the *same* sense as the "nucleus", as is the case when I see one side of the book and imaginatively entertain other visual perspectives of the book, or conjure up one of its pages whose format I am able to recall or the imaginative ingredients of a perception may be the correlatives in *other* senses of given qualities of one sense. This occurs when I imagine the felt texture of the book which I now only see or when, in reverse fashion, I imaginatively supply the colour and visual shape of an object which I encounter in the dark. In all these cases, the images are as genuine components of the percept as is the sensational nucleus.

Although the compounding of qualities into a thing is guided by the natural cohesions among qualities, there is also a pragmatic factor governing the selection of sense qualia which shall constitute a thing. A thing is a unit which can be conveniently manipulated and to which we make a unified behavioural response. Although the carving of things from our experience must in general follow the lines of qualitative cleavage, the qualitative boundaries and the boundaries between objects do not always coincide. There are often many possible ways in which sense qualia may be combined to form things and the choice between the alternative combinations is determined by pragmatic considerations. It is always true, however, that any pragmatically significant selection from the continuum of experience will rest upon some phenomenally real cohesion of qualities. Objects are not carved out of experience completely *ad libitum*. Whether I choose to regard a single page or the entire book, or a set of books or an entire library as an individual thing, the contours of the object will be dictated by qualitative boundaries of some sort, and it is difficult to see how an arbitrary selection cutting across all lines of sensory cleavage could have any pragmatic worth

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whatsoever. Thinghood is no doubt a pragmatic category but it is grounded in the structure of the phenomenally real.

4. *External projection*.—The final step in the constitution of full-blooded perceptual objects is their externalization. An integrated collection of sense qualities would not be a perceptual object unless it were thought of as being outside the percipient in a world of public objects. We always attribute externality to perceptual objects and it is our task to explain just how this attribution comes about. The legitimacy of the attribution is quite another problem and one which I shall defer for the time being. To the question: "How do perceptual objects acquire their semblance of externality?" I reply that the explanation of the externality of our perception is to be found in the intentionality which characterizes all our data, but more particularly the data of sense. Every content of consciousness has an inherent reference beyond itself, which is the principal psychological factor responsible for the belief in the externality of perceived objects. Every datum of sense is accompanied by a tendency of the body to react to the stimulus producing the datum and this reactive tendency somehow confers upon the datum its outer reference. Since each of the sensory—and even the imaginative components—of a percept has external reference, the percept as a whole will possess it to a high degree. Externality is a property of each of the individual qualities of the thing and of the collection of qualities which *is* the thing.

The externalization of the perceptual object is confirmed by our ability to perceive our own bodies, including their organs of sense, and the bodies and sense organs of others when they are actively engaged in perceiving objects. I can literally see that one perceptual object is external to another. I see my hand in contact with the surface of the table at the very time when I feel its smooth, hard surface; in my visual field the surface of the table is outside my hand and the rest of my body. What is more natural than to suppose that the felt hardness and smoothness are *in* the table outside my body and

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that they continue to reside there even when my hand is no longer in contact with the table? If our organs of sense were so arranged that we could not perceive our own bodies—nor the bodies of our fellows—we should no doubt even then be able to form the notion of perceptual externality but with considerably more difficulty. In any case, the attribution of externality to perceptual objects depends in part on our ability to perceive by one sense an object which is in process of stimulating another sense.

The belief in the externality of the perceived object and its continued existence even when it is not perceived, is an integral part of the perception of objects. Whatever the merits of realism as an epistemological theory, it is undeniably true that everyone is "instinctively" a perceptual realist. Ask any man what happens when he perceives a building, a tree, or any perceptual object and, unless his mind has been debauched by epistemological learning, he will reply that he looks out through his eyes and sees the colours and shapes of real objects external to him—objects which continue to exist in the way in which he now perceives them whether he is perceiving them or not. A brief examination of the nature and origin of this natural realism will throw some light on the externalization of the perceptual object. ✓

A belief in the continued existence of the perceptual object even when it is not perceived is ordinarily associated with the belief in its externality. Continued existence is by no means the same thing as externality, for it is quite conceivable—although not very plausible—that the perceived object, while external to the percipient organism, should exist only during the perceptual period, and then lapse completely into non-existence only to be re-created on the occasion of its subsequent perception. Externality certainly affords a presumption in favour of continued existence, for if the perceived object is external to the perceiver it is more likely to be independent of the mechanism of perception. There are also other considerations which seem to point to the realistic assertion that the

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perceptual objects exist during inter-perceptual intervals. One of the most cogent of these is the continuity between perception and imagination to which attention has already been called. Every perception contains an admixture of imaginative with sensory elements; the sensory ingredients of the percept can be successively eliminated and replaced by images until the original percept is completely transformed into an imaginative representation of the same object. The orange which I hold before me is simultaneously given to sight, smell, and touch. If I gradually remove it and conceal it from view so that it no longer stimulates any one of my senses, I still retain a strong sense of its actual presence and believe as confidently in the objective reference of the image of the orange as of the original percept. The continuity between perception and imagination is in part responsible for the tenacity of our belief in the unperceived aspects of perceived objects and in imagined yet totally unsensed objects.

Perception in the light of the foregoing analysis may be comprehensively defined as the integration of qualities, both sensed and imagined, into a "thing" which is regarded as external to the percipient and capable of existing when not perceived. In distinguishing four steps in the perceptual process, we are neither suggesting that the mind in every act of perception exercises all of these interpretative functions nor that the operations are performed in the order enumerated. The perception of an object, although conditioned by complex inferences of the types indicated, is ostensibly immediate. We seem to be face-to-face with real objects and to apprehend the qualities which externally belong to them. I look out through my eyes and behold an object's colour, I extend my hand until it comes into contact with the surface of the object or I hear the sound which it emits. Nothing is for common sense more natural and direct or less in need of elucidation than our acquaintance with the things about us. The elaborate correlations, inferences, and constructions which are involved in

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every act of perception have been achieved at an unconscious or quasi-instinctive level. Or what is more likely, every individual during infancy and childhood has been obliged to achieve consciously for himself correlations, integrations, and inferences of the type essential to the perception of "things" and the retention of these patterns of perception condition all his later perceptions. The infant's first genuine perception of his rattle or his crib is a genuine creative synthesis and one which is repeated with greater ease in each subsequent act of perception. (The acquired facility in performing the intellectual synthesis of perception accounts for the apparent directness and immediacy of perception, but every act of perception is actually mediated by a complex and elaborate interpretational mechanism.)

CHAPTER IV

Perceptual Memory

PERCEPTUAL memory is of all types of cognition the one most closely resembling perception. Memory may be described as a postponed or deferred perception, or rather as a re-perception in the absence of the sensory stimulation which occasioned the original perception. Perception is the primary or non-inferential cognition of a phenomenal object on the occasion of sensory stimulation; *perceptual memory is the primary or non-inferential cognition of the object of a past perception in the absence of direct sensory stimulation*. Every form of cognition has a perceptual basis of some sort, but the dependence of memory upon its correlative perception is peculiarly intimate. The memory is the reproduction of its perceptual original both in its sensuous and interpretational features, with, however, the addition of certain interpretational features peculiar to it. Memory may, to borrow an expression from the calculus, be described as a "first derivative" of perception.

Perceptual memory, to which I shall at present restrict myself, is the retrospective cognition of perceptual objects and is not to be confused with another type of memory, *viz.* introspective memory, which is the retrospective cognition by a subject of his own psychic content. I say, for example, that I remember yesterday's toothache, or that I recall my pleasure on hearing an item of good news, and this is a perfectly legitimate sense of the word memory, but one which is purposely excluded here, since it properly belongs in the next chapter on "Introspective Knowledge". Perceptual memory, in contrast to introspective memory, is the apprehension of

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objects of past perception, not of past perceptual or other conscious processes themselves. Thus I may be said to remember the expression of the prisoner's face when he heard his sentence or to remember the sun's eclipse of 1925, but the memory in these cases is of the originally perceived objects, "the anguished countenance of the prisoner", "the eclipsing sun", *not* of my act of perceiving these. To be sure I may also happen to remember how I was impressed by these past perceptual experiences, but this recollection is introspection and not memory in the proper epistemological sense.

Every memory, although mediated by an antecedent perception, is not on that account an inference from perception. The memory is an effect of the perception from which it derives and, in the rôle of epistemologist, I may infer that such and such a memory implies such and such earlier perceptions, but as a reminiscient subject I simply remember the past thing or event and accept memory at its face value as I do perception. Thus memory is, like perception, a primitive and non-inferential cognition in spite of the fact that it is causally conditioned by perception. The length of the causal chain intervening between an act of cognition and the cause or occasion of the cognition has nothing to do with the directness or indirectness of the resultant cognition. Memory is *causally* mediated by an earlier perception, yet the remembering subject is *cognitively* present to the remembered object precisely as the perceiver is ostensibly present to the perceptual object. Memory is epistemologically neither more nor less direct than perception.

Not only is every perceptual memory conditioned by an earlier perception, but the object remembered, to the extent that the memory is veridical, is the same as the object originally perceived, which, stated in the language of intentionalism means that the earlier perception and the subsequent memory are, as regards intentional reference, identical. The mnemonic situation is characterized by the identity of its object with that of an earlier perception. The point of cognitive

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reference shifts when perception is supplanted by memory, but the object of reference remains constant. The sunset which I perceived yesterday is remembered to-day and may even be recalled to-morrow, but the object of all three cognitive acts is "The-sunset-of-yesterday". Even in the case of delusive memory there is at least a partial identity between the memory-object and its perceptual prototype—otherwise the cognition would be not memory but pure imagination or hallucination.

The memory situation embodies the same structural pattern as does the perceptual situation—which is not at all surprising in view of the fact that both perception and memory are primitive, non-inferential cognitions. In the analysis of perception a distinction was made between the sensory nucleus and the imaginative and interpretative fringe of the percept, the sensory nucleus consisting of one or more *sensa* produced by the stimulation of the organs of sense at the time of perception. The memory-image is produced without sensory stimulation and therefore contains no *sensa*; it does, however, possess a quasi-sensory, imaginal nucleus which is distinguishable from the other imaginative ingredients of the total memory-image by its greater vividness. The structure of a memory thus reproduces the structure of the original percept; the sole difference is that an imaginal datum is substituted for the sense datum of the percept. The core of the memory is the imaginative reproduction of the sensuous ingredients of the percept of which the memory is a derivative. In recalling the ash-tray as I saw it on my desk yesterday, the nucleus of the memory-image is, in so far as my memory is accurate, a shiny, silvery, oval image, in some degree similar as regards quality, shape, and intensity to the corresponding *sensa*. The imaginatively supplied ingredients of the original percept, such as the unsensed, smooth, cold, tactual qualities associated with the visual appearance and the imagined metallic ring which I believe the ash-tray to be capable of emitting if struck with my pen, may also be retained in the total memory-image, but they belong to its interpretational fringe which is distin-

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guishable from its quasi-sensuous core. The presence in every memory-image of elements identifiable as reproductions of *sensa* in the original percept confers upon memories something of the compulsiveness characteristic of the original perceptions. To be sure the feeling of real presence of the object is far less compelling in memory than in perception—indeed the feeling of “presence-in-absence” is characteristic of the memory experience. In perception I feel that the object is both cognitively and ontologically present; in memory I feel that it is cognitively present while ontologically absent, yet some of the coerciveness and compulsiveness of perception is retained even in memory.

The complicated constructional and interpretational operations involved in the initial perception of an object are preserved in the memory of it. This does not mean that the four operations described in the previous chapter are actually repeated in every act of remembering, but merely that the representation of an integrated object, once having been achieved by perception, is reproduced in every subsequent memory of the same object. Furthermore, remembered objects, since they are cognitively identical with previously perceived objects, are assumed to have the traits customarily attributed by common sense to objects of perception. The remembered object is considered to be a relatively stable “thing” possessing the qualities originally sensed along with other unsensed qualities and capable of persisting even when unperceived and unremembered. The object, formerly perceived and now remembered, is thought of as perhaps continuing in existence down to the present moment and as being capable of being re-perceived by me under appropriate conditions. The ash-tray which I remember having used yesterday, I perceive on my desk to-day and thus I simultaneously remember and perceive two different stages in the life history of the ash-tray. Of course, the nature of time does not permit me actually to re-perceive the ash-tray of yesterday so as to compare it directly with my memory of it, but I can

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perceive the ash-tray of to-day which is *substantially* identical with yesterday's ash-tray and thus by inference authenticate my memory. Obviously, re-perception of remembered objects at a later stage of their development is one of the commonest ways of verifying our memories. Common sense has been led by considerations such as these to espouse a mnemonic realism perfectly paralleling perceptual realism; the remembered object *was* real in precisely the same sense in which the perceived object *is* real. Mnemonic realism is a direct corollary of perceptual realism, for the now remembered object and the once perceived object are one and the same thing, and if the perceived object is independent of the perceiving then certainly the same object as remembered is independent of the remembering act.

Memory preserves the essential interpretative features of perception along with certain contributions peculiar to it. In other words, it is a *re-cognition* of a formerly perceived object—but it is also a *recognition* of that object as one which has been perceived before. The imaginative reproduction of the ash-tray as I perceived it yesterday is not a genuine memory unless it is accompanied by the recognition of the ash-tray as an item of my past perceptual experience. Reproductive imagination without recognition undoubtedly occurs and it may even possess a degree of cognitive significance. For example, the vague sense of familiarity which we often feel in the presence of strange persons or situations is in all probability nothing but a faint reproduction of some almost forgotten perception revived by the present situation which resembles it. The familiarity felt under these circumstances which has been thought by some to be an intimation of the mind's pre-existence and immortality is in fact nothing but a nascent memory of long forgotten experiences of childhood—or it may even be due to incomplete and unrecognized memories of dreams. Premonitions can be explained in similar fashion as memories which, detached from their context in past perceptual experience, are projected into the future. Recognition, then, is an indispensable ingredient of a memory,

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and memories when they are not recognitory are mere detached images. Reproduction without recognition is mere imagination but reproduction when combined with recognition becomes genuine memory.

The time-transcendence of memory is one of its most characteristic yet paradoxical features. Memory is the cognition in the present of a past object and consequently the projection of the memory object into the past is an interpretative function performed by the mind in every act of memory. The explanation of just how this is accomplished will require a careful examination of the time-relations of the memory-situation. Attention has already been called to some of the difficulties in any attempt to give a coherent account of the time-relations in perception and these difficulties are greatly accentuated in the case of memory. Perceptual and other cognitive objects construed as "objectives" intended by the knowing subject rather than ontological existents are, strictly speaking, timeless and dateless. The conception of the real date of a perceptual object is as meaningless as is the date of a universal, an imaginary object or a value. Phenomenal objects do not have real times for the simple reason that they do not belong to the existential system of physical and psychical events. For certain purposes it is convenient to construe the phenomenal object as physical and to assign to it the date of the physical cause or occasion of the perception. It will, however, be found more convenient for the purposes of defining the time-relations in cognition to adopt the convention of embracing in the "epistemological present" all objects perceived in the "psychological present"; of including in the "epistemological past" all objects actually perceived or perceptible in the subject's past; and in the "epistemological future" all objects perceptible in the subject's future. The epistemological date of an object of cognition is then past, present, or future according as the perceptual date precedes, coincides with, or succeeds the cognition itself. Imaginal, conceptual, and valuational objects—because they are non-perceptible—are epistemologically as well as physically dateless.

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Employing the scheme of epistemological time, memory is definable as primary cognition of objects whose perceptual date is past. The pastness of the memory object means that it was actually perceived at an earlier stage in the life history of the cognizing subject. The time-relations in memory are thus determinable by reference to the subject's sense of the flow of time alone and of the relations of earlier and later in his inner experience. The intuitively felt time-relations of memory may often be translated into clock-time because of the possibility of correlation of the time-scheme of psychic events with that of physical events, and thus we may assert that a memory, occurring at a time t_2 , is of an object originally perceived at a time t_1 , both t_1 and t_2 representing physical times. The time of a percept or any other psychic event can be approximately determined by reference to any physical chronometer. I perceive a clock and assign the time indicated by it to the perceiving of the clock and to all other conscious contents which co-exist with the percept of the clock. But in the last analysis the dating of psychic events is accomplished by reference to felt duration.

The time-transcendence characteristic of memory which is so puzzling to most theories of knowledge offers no serious obstacles to the referential theory. Memory for any presentational theory of knowledge is an anomaly, for how can a present cognitive act be directed upon an earlier and now non-existent object? To admit with mnemonic monism the accessibility to direct inspection of a past which now no longer is, is to accept an epistemological miracle. The representative theory of memory, according to which a present memory-image stands in a symbolic relation to a past memory-object, is far more plausible than the presentative theory, but it is still difficult to see how a cognitive relation can hold between two terms so widely separated in time. All these difficulties are avoided in the referential theory which asserts merely that a present memory-image refers to or intends a past perceptual object—an object which was also intended at an earlier date

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by the original percept. The time-transcendence of memory is thus a purely referential transcendence comparable to the ostensible spatial transcendence of perception. Memory has nothing to do with the physical or ontological object—supposing there is such—which caused the original perception and through it indirectly the present memory, but is conversant solely with the perceptual object viewed now in a new time perspective.

The analysis of non-veridical cognition frequently contributes much to the understanding of veridical cognition of the same type and this is pre-eminently true of memory. Memory is notoriously delusive and its delusions are peculiarly instructive. The greater fallibility of memory as compared to perception is, of course, due to the fact that the sensory core, which in perception is produced by direct sensory stimulation, is in memory a purely imaginal vestige of an earlier perception and thus memory is not only subject to mistakes of interpretation but even its sensuous ingredients are subject to the fading and accretive effects of time.

Delusions of memory, like perceptual delusions, are classifiable as partial and total: the former being memory illusions, the latter memory hallucinations. An illusory memory is one which distorts an original perception while an hallucinatory memory is one for which no perceptual original exists. Hallucinatory memory is a product of pure imagination mistaken for a memory, and is thus not really memory but pseudo-memory. Hallucinatory memory may, however, be conveniently considered as a subvariety of memory, since it is the limiting case of a delusive memory as the illusory elements become increasingly predominant. The memory series thus proceeds from the limiting case of a completely veridical memory at the one extreme to the hallucinatory memory at the other extreme, with the varying degrees of veridical and illusory memory between the two extremes. There is, strictly speaking, no actual memory which is either completely veridical or entirely hallucinatory.

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Memory is peculiarly liable to error and striking examples of delusions of memory are found on every hand. One has only to reread in one's diary his doings of a few years ago to be impressed by the astonishing discrepancies between the things and events recorded and the present memories of the same occurrences. Illusion of memory exists whenever there are discrepancies in the testimony of different witnesses to the same event after allowances have been made for possible perceptual errors and assuming, of course, that the testimony of all the witnesses is given in good faith. Memory hallucinations are much rarer than illusions, but they are not infrequent even in normal persons. A common type of memory hallucination is that which results from the gradual transformation of an item of historical knowledge into a pseudo-memory. The memory of an often repeated narrative about an event of which one was not a witness or an event which has passed into complete oblivion may be mistaken for the memory of the actual event. Thus a child having repeatedly heard his parents describe an occurrence of his infancy to which he was a witness but of which he may have not the slightest actual recollection, comes in time to believe that he remembers the event. Another typical example of hallucinatory memory is the mistaking of the memory of a dream for the memory of an actual experience dreamed of. Hallucinations of memory may, especially in abnormal minds, be self-induced; witness the pathological liar who not infrequently becomes a victim of his own fabrications, his imaginings having become through frequent repetition indistinguishable from actual memories. Such unfortunate individuals, as a result of constant deception of others for the sake of self-glorification, have in time lost the ability to distinguish between the true and false. Thus it was that George IV presumably came to believe in his own participation in the Battle of Waterloo. Successful raconteurs, particularly of the big-game and Casanova varieties, imperceptibly lose the ability to differentiate between their fancies and their memories. The chronic inability to distinguish the

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fabrications of the imagination from actual memories of the past is one of the early symptoms of serious dementia, but even the normal mind is not exempt from frequent memory illusions and occasional memory hallucinations.

Non-veridical memory readily yields to treatment in conformity with the intentional theory of cognition. A non-veridical memory is one the object of which is at variance with the perceived object of which it purports to be the memory. The objects of a memory are ostensibly the same as the objects of a certain earlier perception. Delusive memory arises whenever, as a result of obliviscence and the unwitting substitution of a new imaginal content for the content of the original percept, the memory object deviates from its perceptual original. The veridical or non-veridical character of a given memory is determined by the correspondence or lack of correspondence between the memory object and the perceptual object, and the question as to whether the original percept was itself veridical, illusory, or hallucinatory is entirely irrelevant to the question of the veridicity of the memory as memory. Perceptual illusion and memory illusion are quite independent of one another and thus all combinations of veridical and delusive perceptions and memory are possible. I may have (i) veridical memory combined with an original veridical perception, or (ii) I may have a veridical memory of a perceptual object which was itself illusory or hallucinatory, or (iii) a delusive memory of a veridical perception, *i.e.* of a veridically perceived object, or finally (iv) a delusive memory of a delusive perception, *i.e.* of a delusively perceived object. The falsity of a memory judgment may be due either to the distortion of memory or to the distortion of perception or to a combination of both. It is, perhaps, conceivable that two distortions should neutralize one another, with the paradoxical result that an illusory perception, *plus* an illusory memory, should yield a veridical cognition, but such a combination of circumstances would be so extraordinary that it can be disregarded in the theory of illusion.

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Perceptual illusion and memory illusion are ordinarily cumulative and the problem is, so far as possible, to disentangle the two.

The veridical or non-veridical character of any given memory is ascertainable only by intricate inferential procedures. There are four principal methods of mnemonic verification. (1) The most obvious and direct method of confirmation of a memory is the comparison of the memory with a present perception of the same object—a form of verification which is possible only if the physical object which causally conditioned the earlier perception still persists to condition the new perception. The identification of the object now remembered with the object now perceived, does not, according to the referential or intentional theory, imply the continued existence of the cognitive object during the interval between the earlier and later perception of it, but only that the object of the present memory is *referentially* the same as the object of the initial perception which in turn is *individually* identical with the object of the present percept. The individual identity of the phenomenal object does not require its literal existence during the inter-perceptual interval, but only that its intermediate stages should be accessible to an ideal or hypothetical percipient. The identification of the memory-object and the present perceptual object is not a matter simply of inspection and comparison, but is achieved by elaborate inferential and constructional processes. The mere resemblance, however close, between a memory and a perception, does not conclusively prove the memory veridical, for there is always the possibility of the substitution of a new perceptual object similar to the object remembered. Nor, on the other hand, is resemblance indispensable to identity for the physical cause of the perception and the percipient organism may have undergone alteration during the interval, such that the perceived object is phenomenally identical with the remembered object but no longer resembles it. The question of identity, then, hinges upon whether the memory-object coincides with the

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object of present perception after allowances have been made for its changed condition. In other words, we have to imaginatively reconstruct from the present condition of the object and the percipient organism its probable appearance at the time of original perception. The agreement of this reconstruction with the memory of the same object is a test of the correctness of the memory. When objects are relatively stable we can safely rely on direct comparison of the memory and the present perception without making the correction for alteration, but usually the perceptual verification of a memory entails elaborate and highly problematic inferences.

(ii) A slightly more involved method of verification or falsification of memory is employed when the memory-object is no longer in existence or is no longer accessible for re-perception. Under these circumstances there are often tangible effects of the remembered object from which its probable character at the time when originally perceived may be inferred. The inferential or historical reconstruction of the remembered object may depart from notes and memoranda of the percipient himself or simply from the natural effects of the remembered event—in either case it affords an “objective” check on memory.

(iii) A third method of indirect and inferential verification of a memory consists in the subject’s appeal to other memories of contemporaneous or nearly contemporaneous objects. If the memory in question coheres with the system of related memories, we assume that it is veridical; if it fails to do so we are obliged to correct it or reject it altogether. The testing of a memory by deliberate, associative recall of related events is a procedure to which we frequently resort in the absence of evidence of a more tangible sort.

(iv) A final method of memory verification consists in the correlation of the subject’s memory with another subject’s memories of the same or related objects. The social verification of memory involves complex inferences and raises some of the most difficult problems of epistemology, namely those

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relating to the existence of other subjects and the mode of communication between them, problems which will be discussed in the chapter on "Knowledge of Other Selves".

The time-transcendence characteristic of memory is by no means an exclusive property of memory, but is shared by it with several other forms of inter-temporal cognition. Inter-temporal cognition is *the apprehension of objects whose epistemological or perceptual date is other than the date of cognition*, and since such knowledge may be inferential or non-inferential, of the past or of the future, there are four possible sub-varieties of inter-temporal knowledge.

(1) *Memory* is primary, *i.e.* non-inferential cognition of objects of actual past perceptions. Memory obviously conforms to the definition of inter-temporal cognition; the memory object having been actually perceived by the remembering subject at an earlier date in his life history. Neither the existence of the memory object nor its pastness is *inferred* from the memory-image; the subject has a primary and immediate awareness of the memory-object as belonging to his past. Pastness is not something added to the memory-object but is an integral part of it. To be sure, the memory-object may be inferable from the memory-image by the psychologist, the epistemologist, or even the knowing subject himself by a subsequent reflective act, but this is only because each, for the time being, adopts the point of view of an outside observer rather than that of knower. For the remembering subject, as such, memory is not an act of inference but an immediate apprehension of an object as past.

(2) *Historical cognition*.—Historical cognition is secondary or inferential knowledge of objects belonging to the epistemological past; historical knowledge, in contrast to memory, is conversant with things past which have never actually been perceived by the knowing subject, or if they have been perceived are unremembered. An object of my past perception which I have completely forgotten may come to be known by me only historically, and it is not an unfamiliar experience

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suddenly to recall to memory something of which one had previously had only descriptive or historical knowledge. Although historical cognition, unlike memory, is not restricted to objects which have at some time been perceived by the reminiscient subject, it is, nevertheless, restricted to perceptible objects, *i.e.* such as may have been perceived by some percipient real or imaginary. Historical cognition is, like perception and memory, conversant with the perceptual or phenomenal world. Historical objects, although they ordinarily have never been perceived by the historical knower, are assimilated to the scheme of perceptual objectivity. Indeed, what is an historical object for me may have been an actual perceptual object for some other observer. The eclipse of 585 B.C. which was a perceived object for Thales and his contemporaries becomes for later historians an historical object, but the eclipse as an historical event is not the astronomical conjunction of earth, moon, and sun, but the perceptible appearances to a contemporary observer produced by such a conjunction. Historical cognition is conversant with the phenomenal order, in the sense of the ideal totality of all perceptual, mnemonic, and historical events, but excludes cognition of such trans-empirical and non-phenomenal objects of science and of metaphysics as atoms, electrons, ether, universals, Euclidean space, and things-in-themselves.

Memory and history are conversant with the same type of objects, namely, perceptual objects belonging to the past. Every item of historical knowledge, like every memory, has its perceptual basis, but the two kinds of knowledge differ radically in their derivation from perception. Whereas memory is conditioned by, but not inferred from, its correspondent earlier perception, historical knowledge is both conditioned by and inferred from some present perceptual object. The difference between mnemonic and historical cognition is most strikingly illustrated by situations in which a single subject cognizes an identical object both mnemically and historically. The combined mnemonic-historical situation may be described

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in general terms as follows: a subject, S , having perceived an object o_1 at a time t_1 remembers the same object o_1 at a subsequent time t_2 and, at the same time, perceives another object o_2 which is an effect of o_1 and from which the subject may proceed inferentially to o_1 . Under these circumstances the subject is at the time t_2 in possession of both mnemonic and historical knowledge of the identical object o_1 , mediated in the one case by the subject's earlier perception of o_1 and in the other case by his present perception of o_2 . Examples of this dual type of cognition are found whenever the verification of a memory is accomplished by attaining historical knowledge of the memory-object. Thus my memory of the details of the eclipse of 1925, having grown hazy with the passage of time, is supplemented and corroborated by astronomical records and photographs which are the remote effects of the eclipse and by the aid of which the eclipse is known historically. In the absence of any available records or other discoverable effects of a remembered object, I may seek to determine the correctness of the memory by correlation with other memories of my own or with the memories of other witnesses to the original occurrence. These correlations involve inferential processes and the resultant cognition is accordingly historical. It is indeed difficult to conceive of any method of memory verification which would not involve a combined mnemonic-historical cognition of the same object.

Memory and historical cognition like perception are mediated by a chain of causal influence proceeding from the cognitive act as effect to the physical correlate of the phenomenal object as cause. In perception the physical influence emanating from the physical object¹ stimulates the sense organs of the percipient and produces those changes in the brain and the nervous system of the percipient which underlie perception. Memory is conditioned by an intra-organic causal

¹ The physical object in the perceptual situation is not to be confused with the perceived object—the former is an inferential scientific construct, the latter is the epistemological "object" of the perceptual cognition

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sequence traceable back to the neuro-cerebral processes underlying the original perception. In memory the mediating causal processes—when traced from effect to cause—proceed first *backward* intra-organically to the physiological processes correlated with the original perception and then *outward* to the physical cause of the perception. In historical cognition of the same object, the conditioning causal processes—again traced from effect to cause—proceed first *outward* to the physical object occasioning perception and then *backward* in time to the same physical object which occasioned the first perception. The identical physical object is reached along two different lines of causal influence when a subject has both mnemonic and historical knowledge of the same cognitive object.

(3) *Prescience*—irrespective of the question as to whether or not there actually is such knowledge—may be defined as primary or non-inferential cognition of objects belonging to the “epistemological future”. The mind occasionally has moments of prophetic vision in which it seems to be in the presence of as yet non-existent objects of future perception just as in memory it enjoys primary cognition of no longer existing objects of past perception. Cognitive transcendence as regards the future is no more theoretically impossible than time transcendence as regards the past. The argument that the past at least has been, whereas the future has never enjoyed any ontological status whatsoever, is inconclusive for the future which will exist is certainly no more anomalous than the past which has existed but no longer exists. In asserting that primary cognition of the future is an epistemological possibility we are not, however, maintaining its factuality. Primary cognition of the future would seem to be precluded by the very nature of the causal conditions indispensable to every primary cognition. In perception and memory, the two authentic forms of primary cognition, the cognitive act is the terminal effect of a causal series whose other terminal is the cognized object—or rather its physical counterpart. But the

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causal process is unidirectional and thus the act of prescience cannot be the effect of the physical occasion of the future perception. Furthermore, alleged instances of primary cognition of the future are found on closer scrutiny to be imaginative anticipations of the future, resting upon obscure and inarticulate inferences, and thus not to be primary cognition at all. Premonitions are typical; they are secondary cognitions of the future whose inferential basis is so obscure and confused that they are mistaken for primary cognitions.

Primary cognition of the future may be unattainable and yet the mind on occasions seems to cognize future objects, precisely as in perception and memory it cognizes present and past objects. Epistemological theory ought, therefore, to be prepared to take account of them should authentic instances of prescience occur. Primary anticipatory cognition would certainly conform to the epistemological pattern of memory. A present anticipatory image—somehow induced by the future—would point forward towards the object of an expected future perception precisely as in memory the image points backward towards the object of a past perception. The anticipatory apprehension would be veridical if subsequent perception encountered an object which was referentially identical with the object of anticipation. The anticipatory image, preserved in memory, would then be verified or falsified by comparison with the perceived object when and if actualized.

(4) *Expectation* is secondary or inferential cognition of objects belonging to the epistemological future. Expectation bears the same relation to prescience as historical cognition does to memory. Indeed, since there are presumably no instances of genuine prescience, all cognition of the future is expectation. All ordinary predictions and prognostications of the future are obviously expectations based upon inference, and even prophetic visions and premonitions with their illusory sense of the presence of the future object are expectations in which the inferential elements are unconscious or obscure. Expectation has precisely the same epistemological character

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as historical cognition. The inferential processes involved in proceeding from the past and the present to the future are essentially the same as those by which the past is inferred from the present. The reconstruction of the past can be accomplished with greater assurance and in greater detail than the projection of the future, but the difference between retrospection and anticipation pertains only to the character and the amount of available evidence in the two cases and does not indicate any essential difference of pattern between the two cognitive situations. Intertemporal cognition, in its three commonly exemplified forms, namely, memory, historical retrospection, and expectation, conforms to the referential pattern of all knowledge. The only epistemologically significant difference is between memory, which is primary and quasi-perceptual, and historical and anticipatory knowledge, both of which are descriptive and inferential.

CHAPTER V

Introspective Knowledge

IN addition to the supposedly extra-mental objects of perception discussed in the previous chapters, there is a class of introspective objects which belong to the conscious experience of the knowing subject. Perception and perceptual memory are both extrospective in that they are conversant with public perceptual objects; introspection, on the other hand, is directed towards the private and the subjective. Both extrospection and introspection have their origin in the inspectively given which is neither "objective" nor "subjective". The objects of introspection include emotions, hedonic feelings, desires, volitions, and even cognitive processes like perception, memory, and conception in so far as these are considered in the context of the subject's conscious life rather than in their capacity of referring to supposedly extra-mental objects. Introspection culminates in self-cognition, the subject's apprehension of himself as the unity in and of his private states. I shall attempt in the present chapter to show that although the analysis of introspection presents problems and difficulties peculiar to it and not encountered in the several forms of extrospection, nevertheless the introspective situation has essentially the same referential structure as the perceptual and the mnemonic situations.

Introspection may be provisionally defined as *the knowledge by a subject of his own states and processes and of the self considered as the unity of its several states*. Introspection is then that sub-species of cognition, the objects of which are items in the same conscious continuum as the cognizing subject. It is this intimate relation between subject and object which

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confers upon introspection its peculiar flavour and which is responsible for the special difficulties of this type of cognition.

As a preliminary to a detailed analysis of the introspective situation, introspection must be carefully differentiated from two affiliated types of cognition, namely, (i) *inspection* and (ii) *memory*. Introspection is closely allied with, yet distinguishable from both of these. (i) Inspection, the most basic and rudimentary of the forms of cognition, has been described¹ as the direct apprehension of qualia and of the relations between qualia; in contra-distinction to perception, memory, introspection, conception, and other higher cognitive processes, it is concerned *not* with objects but with qualia in their character of presentational immediacy. Inspection thus belongs to a pre-cognitive level of experience which antedates any distinction between subjective and objective, between mental and extra-mental. The duality between the subjective and the objective aspects of experience, between cognizing subject and cognized object, which is only latent in inspection, emerges first in perceptual and mnemonic cognition and then in introspection. Introspection in contrast to inspection is a cognition of *objects*—albeit objects which happen to belong to the same existential continuum as the act of cognition itself. Introspection thus involves interpretative elements totally absent from inspection. The introspected object, whether it be an emotion, a perception, an act of will, is brought under the category of thinghood and is assimilated to the system of events which is the cognizing subject. The distinction between inspection and introspection is of the utmost importance, for much that passes for introspection in psychology is not genuine introspection at all but mere inspection of the immediately given. The confusion between inspection and introspection is also responsible for the erroneous belief that introspection is a direct self-awareness accompanying every conscious process. (ii) *Memory* embraces all non-inferential

¹ Cf chapter 11, especially pp 44–52

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apprehension of the past whether perceptual or introspective in character; introspection is accordingly a sub-species of memory in the wide sense. Every act of introspection is an act of retrospection, but some—in fact most—memories are (non-introspective. The difference between perceptual memory and introspective memory is simply a difference of referential object: the former is conversant with past perceptual objects, the latter with states of the knowing subject. Thus, if I recall having seen Mr. A on the street yesterday, the memory is perceptual since the memory-object of to-day is—to the extent that my memory is veridical—identical with the perceived object of yesterday. But if I recall the incident not for its own sake but as the occasion for an introspective analysis of perception, the cognitive object is now no longer merely “Mr. A” but the total situation “myself-in-the-act-of-perceiving-Mr. A”. The original perception and the subsequent introspection of the perception have two different objects—though the one is inclusive of the other. The distinction between introspection and memory is perfectly clear when the memory is perceptual, but it may be asked whether the distinction holds when, as is usually the case, the object of introspection is a non-cognitive process, say an emotion, a feeling, or a volition. The distinction between introspection and memory is, in these instances, elusive. What is the difference between remembering an emotion of yesterday and introspectively examining the same emotion? There is, I believe, a subtle referential difference between the memory and the introspective scrutiny of an emotion, say, of anger. If I am merely recalling my anger of yesterday, I revive the original emotion and consider it in the context of the situation which occasioned the emotional outburst; on the other hand, the introspection of yesterday’s anger entails also the conscious recognition that it was *my* anger and that it belongs to continuum of my personal experiences. The essential difference, then, between memory and introspection is referential and contextual: in memory I relate the remembered object to other objects and events in

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the original situation; in introspection I assimilate the conscious process to the context of my subjective experiences. In general, then, the relation between memory and introspection is such that without memory introspection would be utterly impossible, yet, on the other hand, most memories are devoid of introspective significance.

Introspection may be described as *intra*-subjective cognition, that is to say, cognition *by* one member of a conscious continuum *of* another member of the same continuum—the conscious continuum being the entire succession of processes which constitute or belong to a single mind or self. The description of introspective objects as mental or subjective does not necessarily commit one to the adoption of a mentalistic or idealistic theory of their metaphysical status. I am not asserting that the objects of introspection are entities *sui generis*, constituted of some unique, psychic stuff; the words “mental” and “subjective” are applied to introspective objects merely to indicate the context in which they are found, namely, that of private as distinguished from public objects. The objects of introspection are private in that they are accessible by a primary act of cognition only to the introspectionist himself and not to the generality of percipients. The contents of my own mind are introspectively cognized by me; the contents of another’s mind are introspected by him, but our cognition of one another is non-introspective. One and the same item in the past experience may be the object of my own introspection and of another’s extrospection, as when I describe to another the toothache which I experienced yesterday. For me the introspected feeling has a peculiar quality of intimacy which it entirely lacks for another. The characteristic intimacy of all intra-personal, in contrast to inter-personal, cognitions defies precise analysis and description. It may be due to a relatively constant fringe of muscular, organic, and other bodily sensations which are revived along with the reproduction of the retrospected experience and which is recognized as “mine” on account of its similarity to my present

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bodily tone. But, whatever the psychological explanation of the feeling of intimacy, its factuality cannot be questioned; present in every act of introspection is the characteristic flavour of selfhood.

The object of introspection is either a single ingredient of the empirical ego—a so-called “state of mind”—or the entire empirical ego considered as the ideal completion of its states. Introspective cognition is definable in terms of its peculiar object, namely, the empirical ego, and the distinction between introspection and perception presupposes a discrimination between the nexus of events which constitute the empirical self and events belonging to the world of public objects. While the determination of the exact nature and constituents of the empirical ego is the task of psychology and metaphysics—not of epistemology—a brief consideration of the nature of the self as a cognitive object is necessary. The empirical self is a unity in and of its constituent cognitions, emotions, acts of volition, etc., precisely as a perceptual thing is the unity of sensory and ideational qualities. The unity of selfhood is the unity of thinghood—the category of substance applies univocally to perceptual objects and to empirical selves. The desk on which I am now writing is a thing in that its successively perceived states may be organized in terms of a persistent structural pattern. Structural and qualitative similarity and their spatial continuity are the two principal ingredients entering into the constitution of the unity of an object of perception. Similarly, the self is an ordered series of states of mind, which are both continuous and resembling. Continuity and similarity are, as William James insists, mutually complementary ingredients of selfhood: “Continuity makes us unite what dissimilarity might hold apart”.¹ The apprehension of the self as a “thing” involves interpretative and constructional processes analogous to those by which discrete qualia are fused into the unity of a perceptual object. The self which is the object of introspective cognition is either a segment of

¹ *Principles of Psychology*, vol. 1, p. 334

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the continuum of resembling states or the ideally envisaged totality of such a conscious continuum.

The object of introspection is emphatically *not* a pure principle of subjectivity. The pure ego, supposing that there is such, is not a possible object of introspective scrutiny. The pure ego according to Kant, and most other defenders of the transcendentalist theory, is established by inference and not by direct self-inspection. Kant's presuppositional method of arriving at the "transcendental unity of apperception" is an elaborately inferential approach to the pure ego.¹ Kant explicitly repudiates an empirical or introspective apprehension of the pure ego; his theory of the pure ego may be interpreted as a highly technical expression of the doctrine of the essential inscrutability of the present state of consciousness. Every present thought is transparent, that is to say, is cognizant of something other than itself, but it is in the nature of the case incapable of *self*-scrutiny. The pure ego is simply the supposed unity of such a succession of inscrutables conceived as an absolute and abiding subject of knowledge. Since the pure ego, or knower, is not introspectable, the only self which could possibly become an object of introspection is the empirical self made up of such items as emotions, hedonic feelings, bodily and organic sensations considered in their personal context.

The crucial questions concerning introspection which confront the epistemologist pertain to the structure of the cognitive situation in which the mind is aware of itself and of its own states. What is the structure of self-cognition and what is the *modus operandi* of this type of knowledge? These questions may be most conveniently answered by an examination and criticism of introspective monism, the most prevalent view of the introspective situation. Introspection is the last stronghold of epistemological monism, for if the identity between subject and object exists at all, it is in *self*-cognition. What

¹ An analysis of the inferential processes by which Kant attains the transcendental ego is given in the present author's essay, "The Transcendental Method", in *The Heritage of Kant* Edited by J. T. Whitney and D. F. Bowers

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is more natural to assume than that introspection is a simple, intuitive self-awareness, and that the mind being, so to speak, at home with itself should know itself directly in every conscious activity? Descartes argued with specious plausibility in *Meditation II*, that nothing is more easily known than the mind since the mind is itself the instrument of knowledge, and modern philosophy has, with a few notable exceptions, allowed this argument to go unchallenged. But the simplicity attributed to introspective cognition will be found on closer examination to be a pseudo-simplicity, for introspection contains the same referential duality which characterizes the other types of knowledge.

Introspective monism asserts that *all* conscious processes are self-revelatory and that the mind in being conscious of anything is contemporaneously aware of itself. When, for example, I perceive the tree outside my window, I am not only aware of the tree but of myself perceiving the tree. I am aware of my awareness in the very act of being aware of an object, and what is true of perception is equally true for the whole range of conscious experiences: an emotion is experienced as *my* emotion, a feeling of pleasantness or unpleasantness as *my* feeling, a decision as *my* decision.

Introspective monism assumes a variety of forms: there is the naïve or dogmatic position of those who, with Descartes, confuse consciousness and self-consciousness, and then there is the more critical and sophisticated view of idealists, like Leibniz and Hegel, who, while recognizing the inherent complexities of self-awareness, nevertheless assert that every act of consciousness is at the same time an act of self-consciousness. Descartes' confusion on the subject of introspection is nowhere more glaring than when he argues that "nothing is easier for me to know than my mind", since the apprehension of any physical object, for example, the piece of wax, is an activity of the mind.¹ The Cartesian argument that knowledge

¹ Cf. *Meditation II The Philosophical Works of Descartes* (Haldane and Ross translation), vol. 1, pp 153-7.

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of physical objects is *ipso facto* knowledge of the mind is confused and fallacious. The mind is, of course, operative in every act of knowledge, for it is the instrument of knowledge, but this does not mean that it is contemporaneously aware of itself as knowing. The argument erroneously assumes that the mind, because it must be present to know the piece of wax, necessarily knows itself in the act of knowing the wax. The fact of the matter is that the mind first knows the piece of wax and only retrospectively knows itself. The mind in functioning as subject of knowledge is preoccupied with its appropriate object, in this case the piece of wax, and is not simultaneously aware of itself. Indeed the peculiar difficulty of a theory of introspective cognition is that of explaining how the mind is capable of playing the dual rôle of knower and object known.

More subtle than Descartes' account of self-cognition is that of Leibniz, who sharply distinguished between perception, "the passing condition which involves and represents a multiplicity in the . . . simple substance" and "the acts of reflection, which make us think of what is called I".¹ Leibniz acknowledged the possibility of "perception" without "reflection", but he presumably maintained that "reflection", when it does occur, is inextricably united with a "perception". "Reflection" then is, for Leibniz, an immediate self-apprehension accompanying perception. Thus, although he distinguished "reflection" from "perception", Leibniz has to be classed with the introspective monists, because he considered "reflection" to be an immediate self-apprehension accompanying certain—though not all—perceptions.

Introspective monism receives its most elaborate formulation in the doctrine of reflection of post-Kantian idealism. Hegel repudiates the doctrine of immediate self-consciousness and substitutes for it the theory that the mind becomes conscious of itself in being conscious of another. The "other" serves as a

¹ Leibniz, *The Monadology*, etc., sections 14 and 30. R. Latta translation, pp. 224-5, 230

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mirror in which the self sees its image, or rather sees itself. This reflective self-consciousness is possible even at the level of perception. "Self-consciousness", says Hegel, "is reflection out of the bare being that belongs to the world of sense and perception, and is essentially the return out of otherness."¹ Perceptual self-consciousness is, however, crude and imperfect in contrast to the higher self-knowledge entailed in the knowledge of other minds. In establishing *rapport* with another self, I become more poignantly aware of myself. Two minds, through their impact on one another, "recognize themselves as mutually recognizing one another".² Hegel's doctrine of self-consciousness is far more adequate than the naïve theory of immediate self-apprehension in that it acknowledges duality and mediation in self-cognition, but the theory remains a variant of introspective monism since the mind in the act of perceiving an object or knowing another mind is contemporaneously aware of itself. Whatever plausibility the Hegelian account of self-consciousness has resides in the simile of the mirror—a simile which, however, cannot withstand critical scrutiny. The suggestion that the perceived object is a mirror in which the cognizing self sees its image and reflection cannot be defended as a serious epistemological hypothesis. The perceived object since it is in part a construction of the knowing and interpreting mind bears the imprint of that mind, but it would be absurd to base introspective psychology on the clues to the nature of mentality revealed in perceptual experience. Furthermore, although cognition of other minds may indirectly promote self-cognition, it is capable of doing so only because the mind has an antecedent introspective knowledge of itself. The knowledge of one's self if gleaned solely from an examination of one's knowledge of another would be exceedingly impoverished and unreliable.

Introspective monism possesses an attractive simplicity and *prima facie* plausibility, but it may be criticized on both

¹ Hegel's *Phenomenology of Mind* J. B. Baillie translation, vol 1, p 166.

² *Ibid*, p. 178.

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epistemological and psychological grounds. It is epistemologically unsound because it affords no intelligible explanation of the *modus operandi* of self-consciousness. The immediate self-awareness whereby the mind is supposed to turn back upon itself is an obscure and mysterious process. How can a conscious event which simply *is* itself also be cognizant of itself? Are not self-identity and self-cognition incompatibles? The bare self-identity of a state of consciousness precludes the duality of subject and object which is essential to every act of knowledge. The unintelligibility inherent in the very notion of immediate self-cognition is not clarified by such vague, metaphorical notions as "*Erlebniss*" and "enjoyment". It is true that each of us "lives through" his conscious experiences, but to live through an experience and to be truly cognizant of it are by no means the same thing. A man at the time when he is subject to a violent fit of anger cannot be said to have introspective knowledge of that emotion, although he does, of course, have the materials for subsequent introspective examination. Mr. Alexander's conception of "enjoyment" as opposed to "contemplation" does not solve the problem of self-cognition. He believes it possible for the mind to contemplate an object and at the same time to enjoy itself.¹ But self-enjoyment, if it is no more than being or living through a conscious process, has no cognitive significance whatsoever, and thus enjoyment cannot be construed as a mode of cognition on a par with contemplation. All genuine cognition is "contemplative" in Mr. Alexander's sense of the word. It may be noted in passing that enjoyment is a peculiarly unfortunate term to designate immediate self-apprehension, for "enjoy" is a transitive verb and thus enjoyment must be *of* something. Enjoyment suggests a duality between the *enjoying* and the *enjoyed*, which is precisely what Mr. Alexander is anxious to avoid.

The difficulties inherent in immediate self-cognition may be graphically illustrated by the aid of certain physical

¹ S. Alexander, *Space, Time and Deity*, vol. 1, pp. 11-20.

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analogies; the most familiar of these is the analogy between vision and cognition. The mind as the organ of cognition may be likened to the eye as the organ of vision. Now the visual situation which would exactly correspond to direct, introspective cognition would be that in which the eye while looking at an object sees itself. But this is an optical impossibility just as the supposition that a state of mind can cognize itself in the act of cognizing its object is a psychological and epistemological impossibility. But, it may be argued, although the eye cannot directly see itself in the act of seeing something else, it can by the aid of a mirror see its image and thus virtually see itself. The mind cognizes itself by discerning a reflection of itself in perceptual objects, and more particularly in other selves. The reflective theory of self-cognition, propounded by the classical systems of idealism, is certainly more satisfactory than the naive theory of immediate self-cognition, but it is not without its peculiar difficulties. A technical objection to the reflective theory of introspection is that the mind is only apprehending its reflection and not itself, just as the eye, looking at itself in a mirror, is not seeing itself but an image of itself. This objection is perhaps not really damaging since the cognition of a reflection is equivalent to the cognition of its original provided we have assurance that it is a faithful reproduction of the original. But this raises the deeper issue as to how we know that physical objects and other minds really do reflect the cognizing subjects with sufficient precision to yield reliable knowledge of them. No doubt there is much truth in the essential insight of the Kantian epistemology that any perceptual object by virtue of the interpretational elements contributed by the cognizing mind is in some degree a reflection of that mind. Furthermore, as regards the cognition of other minds, it may be said that I am capable of discerning in others only those traits of character which I possess to a greater or lesser degree myself. But did I not possess an independent knowledge of myself, I should have no basis for the belief that I am reflected in others. The reflectional theory of

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introspection presupposes some other mode of self-cognition, for otherwise I could never have come to know in the first place that things and persons cognized by me are in some measure reflections of me. The reflectional theory of self-cognition adopted by the absolute idealists is then no more than a suggestive but vague and inexact metaphor, and does not afford an epistemologically adequate theory of introspection. Closely allied with the mirroring analogy is the spatial simile which likens direct self-cognition to a circle which "turns back" upon itself. A point moving in a circular path returns upon itself from the opposite direction. Why may not introspection be an act of mind capable of a circular return upon itself? Thus a single act of mind *S*, say an act of perception, is directed outward in a rectilinear fashion upon its extrospective object *O*, but is at the same time directed in circular fashion inwardly upon itself. The circle is no doubt a convenient device for symbolizing self-cognition, and yet it affords no real clarification of the way in which self-cognition takes place. If the cognitive act *S* is directed upon its perceptual object *O*, it is difficult to see how the *identical* cognitive act could turn around upon itself and be an object for itself. The analogy between circular motion which completes itself by returning to its starting-point and self-cognition, which is cognition turning back upon itself as object, scarcely solves the paradox of introspective immediacy.

The basic criticism of immediate self-cognition may be stated formally as follows: a state of mind *S* cannot be directly cognized by itself, for if *S* is a unified state of mind it cannot perform the dual rôle of subject and object. The only conceivable relation which can obtain between a thing and itself is that of numerical or self-identity, and this is incompatible with the duality requisite to the cognitive relation. If, however, the defender of immediate self-awareness maintains that *S* is *not* a unified state of mind, but one which contains an inner duality *S* and *S'*, and that one of its aspects, say *S'*, cognizes the other aspect *S*, then he has abandoned his intro-

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spective monism. The situation is no longer one of *self-cognition*, for S is not known by S but by another state S', albeit intimately related to the first. The dilemma of direct self-cognition is this: either the subject and object are identical, in which case there is no *cognition* at all, or else they are distinct, in which case the cognition is not *self-cognition*.

Direct introspective cognition may be criticized not only on formal grounds, but by appeal to empirical or psychological evidence. In the last analysis, the nature of introspective cognition can only be introspectively determined. To the objection that the introspection of introspection is a circular and therefore illicit procedure, the reply is that the circle is unavoidable but is not vicious. Every epistemological inquiry is circular in that it is knowledge *of* knowledge, but epistemological science is not vitiated by this fact. Introspection in particular can only be introspectively investigated. The possibility of introspective cognition must be assumed at the beginning in order to discover *by introspection* the structure of the introspective situation. The circular procedure is not self-vitiating but rather self-confirmatory, for we succeed in gaining new introspective insights, assuming the validity of introspection. The appeal to introspection to determine the character of the introspective situation is not only legitimate but is in the nature of the case the only possible procedure open to the epistemologist.

Introspection may be directed toward any conscious process whatsoever, an emotion, volition or feeling, but it is most strikingly illustrated when it departs from a cognitive process. If a primary cognitive act S, such as a memory or a perception, which has its object O, is made the object of another act S', and this in turn the object of a third cognition S'', S' is an introspective cognition and S'' is an introspection of an introspection. There are thus three cognitive activities involved in the formulation of a theory of introspection: (1) the primary act, S, *e.g.* the perception of a tree; (2) the secondary or introspective act, S', in this case the introspection of perception;

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and (iii) the tertiary act, *S''*, the introspection of an introspection. By a comparative analysis of many introspective situations and inductive generalizations from these it is possible to formulate a theory of introspection. The introspective scrutiny of a variety of introspective situations discloses in each an inner duality between the *introspecting* and the *introspected*, and thus supports introspective dualism as against introspective monism.

The refutation of introspective monism will not be entirely convincing until an explanation is given for the plausibility of the theory of direct self-apprehension. Why, if direct self-scrutiny is impossible, is the belief so prevalent that the mind is capable of direct self-examination? Hume set an admirable precedent for all later philosophy when he acknowledged the sceptic's obligation of explaining the origin of those conceptions the validity of which he challenged. He was not satisfied merely to demolish the traditional conceptions of substance, the self and causality, but felt it incumbent upon him to give an account in terms of his own theory of the genesis of the belief in such metaphysical principles. In rejecting introspective immediacy we must be prepared to explain why the doctrine that every conscious act is *per se* an act of self-consciousness seems so plausible and has had so many adherents among philosophers. What is the genesis of the false belief in the ubiquity of self-consciousness? The most plausible answer is that the shift from the initial consciousness activity (the primary act listed as (i) above) to the retrospective apprehension of it (the secondary act listed as (ii) above) is so rapid that the original act seems to involve self-consciousness. At one moment I am conscious of a perceptual object, *e g.* the tree outside my study window, and immediately afterward I reflect upon my earlier perception of the tree. The distinction between the primary act of perception and the subsequent introspection is lost sight of and I erroneously believe that I was initially aware of myself perceiving the tree. Thus the monistic theory of introspection arises from the failure to

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discriminate the primary and the secondary acts of consciousness which follow one another in rapid succession.

A dualistic or referential theory of introspection is the only alternative to the monistic theory of direct and contemporaneous introspection. According to the referential theory, conscious activities of sensation, perception, desire, emotion, and volition are directed towards their proper objects and are never self-cognizant, but they can be known by a later retrospective act directed upon them as cognitive objects. Thus introspection exemplifies the referential transcendence of the immediately given which has been found to characterize perception and memory. When I now introspectively examine a past conscious content, the *vehicle* of the introspective cognition is the present imaginative reproduction of that earlier content and the *object* of the introspective cognition is that earlier content as now referred to. The earlier content ontologically or existentially considered is no longer actual, but is nevertheless intended or referred to by my present introspective act. In veridical introspection the present content is presumably a faithful reproduction of the earlier content; in non-veridical introspection it is distorted. The theory of introspective dualism, which is simply epistemological dualism as applied to the introspective situation, recognizes that all introspection involves the numerical duality of the process of introspecting and the real object introspected. Introspection is then no more immediate, intuitive, or infallible than is any other form of cognition, say perception, or memory; it differs from these solely in that its object is a member of the subjective succession to which the cognitive act also belongs.

CHAPTER VI

Knowledge of Other Selves

THERE is no field of epistemological inquiry which stands in greater need of careful exploration and clarification of issues than the cognition of other selves and their contents. The slighting of this field of inquiry until quite recently is due to the former excessive preoccupation of epistemologists with perceptual and scientific knowledge. Even the terminology of this division of epistemology is cumbersome and inexact. There is no simple expression similar to perception, memory, or introspection to designate the apprehension of the processes and states of mind of subjects other than those of the cognizing subject. In the absence of any recognized technical expression, epistemologists employ such cumbersome expressions as "knowledge of other minds", "intersubjective intercourse", and "contact between minds". Intersubjective knowledge is an accurate, though somewhat ponderous, general designation for this type of cognition. The nouns *telegnosis*, *telepathy*, *telesthesis*, and their corresponding adjectives are useful except for their obscurantist associations; they suggest some sort of occult, extra-sensory transference of thoughts, emotions, and feelings from one mind to the other, instead of the normal sense-mediated communication between minds.

Intersubjective knowledge is any situation in which one subject cognizes another subject or its conscious content. The subject cognized may be unaware that he is an object for another subject, but frequently intersubjective cognition is reciprocal. Intersubjective intercourse is the state of affairs in which one subject, S_1 , is cognizant of another subject S_2 , and S_2 in turn

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is simultaneously cognizant of S_1 . The preoccupation of two minds with a common object is not in itself intersubjective intercourse although it may very well serve as the occasion for it. Two minds to be mutually cognizant must establish between themselves a sympathetic rapport such that each is a cognitive object for the other as are lovers engrossed in one another's subjectivity. Bilateral cognition of selves consists of two contemporaneous cognitions and involves no new principle not found in the one-directional situation.

The already familiar distinction between primary and secondary cognition is applicable to cognition of other selves. Primary intersubjective cognition is the non-inferential apprehension by one mind of another mind. Secondary intersubjective cognition is the inferential knowledge by one subject of the contents of another's mind. Primary intersubjective cognition may, without serious risk of misunderstanding, be called "perception of other minds".¹ By "perception" of another mind I mean the apprehension of the cognitive, affective, emotional, or volitional contents of that mind on the occasion of my perceiving the movements of his body which I interpret as signs of his state of mind. These movements may be vocal sounds, facial expressions, bodily attitudes, and other behavioural manifestations of his state of mind. The mere perception of the bodily behaviour of an animal or of another human being is not to be construed as knowledge of his mind unless it is accompanied by the attribution to him of private states similar to those with which the knowing subject is himself introspectively familiar. In characterizing as "private" the states of another's mind, we mean only *introspectively* private, for they are epistemologically public in so far as they may be cognized indirectly by another mind. When I cognize your private content, I apprehend it as I imagine it to be introspectable by you. Much of what passes for knowledge of other minds is not genuine inter-

¹ C. D. Broad in *Mind and its Place in Nature*, pp. 358-9, defends the appropriateness of this usage.

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subjective cognition but is the mere perception of the behavioural responses of other human beings. In perhaps nine-tenths of our daily intercourse with our fellows we are knowing them merely as integrated systems of bodily behaviour and not as conscious and self-conscious subjects. The salesman's attitude towards his customers, the employer's treatment of his employees and domestic servants, and even a public speaker's attitude towards his audience are, alas! too frequently exclusively on the behaviouristic level. It is only rarely and with some effort that we seek imaginatively to identify ourselves with the thoughts, sentiments, and feelings of others and thus come to know them as minds. Since our treatment of our fellows is so largely dependent upon a knowledge of their behaviour patterns rather than their states of mind, it is not surprising that behaviourism should have so successfully asserted its claim to be an adequate theory of human psychology, but it is as incapable of accounting for the attribution of mentality to others as of explaining our introspective and introspective awareness of ourselves. Only when the cognizing mind imaginatively identifies itself with another mind and seeks to reconstruct the mental states of that mind as they would be introspectively apprehended by it, does the resultant cognition qualify as intersubjective. The knowledge of behaviour alone, however acute, exhaustive, and pragmatically efficacious, remains on the level of ordinary perception—even though the perceptual object in this case happens to be the bodily behaviour of other human beings. The perception of the bodily behaviour of others, however, becomes through processes which will be described, the medium and the vehicle of the perception of their minds.

The "perception" of another mind resembles the perception of a thing in that, though mediated by various past inferences and constructions, it is at the time of perception quasi-immediate. The "perception" involves previous elaborate inference and yet the present perceptual act is not itself an inferential process. Perception of both the ordinary and intersubjective

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varieties is a primary though inferentially mediated cognitive act—it is, to employ the terminology of the Hegelian dialectic, an example of “mediated immediacy”. When I perceive a tree by the aid of certain sense-data, I do not infer the existence and character of the tree from the sense data—though such inference is undoubtedly possible—I simply apprehend the tree through the epistemically transparent sense-data. My ability to see a tree instead of a mere congeries of sense data is to be sure conditioned by previously achieved inferences and constructions, yet what I actually perceive *is* the tree. Similarly, I am able to “perceive” another mind instead of a mere succession of behaviour patterns because during infancy and childhood I have gradually built up the notion of other minds similar to my own which are associated with certain types of behaviour phenomena. The retention of such a conception enables me when I converse or otherwise communicate with another to ideally project a mind behind the sounds and movements of his body. Hence the first task in the analysis of intersubjective cognition will be to describe the processes whereby we come to believe in the existence of other minds similar to the one with which each of us is introspectively familiar.

The perception of another mind involves five steps: (1) *the perception of my own body and its discrimination from other perceptual objects*.—Somatic perception which is so indispensable to the formation of the notion of myself as a psycho-physical unit is an essential step in the apprehension of other minds. If we were incapable of perceiving our own bodies it may be doubted whether the conception of the self would ever have arisen.

(2) *The perception of animal and human bodies other than our own and the discrimination of these from the world of inanimate objects*.—The recognition of other animate bodies arises in part at least from the observation of structural and behavioural similarities between these and our own bodies. Even if the construction of our organs of sense were such

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that we could under no circumstances perceive our own bodies, it would still no doubt be possible to differentiate behaviour-istically between animate and inanimate bodies. However that may be, we *are* able to differentiate between animate bodies and mere automata and this differentiation preconditions the apprehension of other selves.

(3) *The introspective apprehension by an individual of his own cognitive, emotional, and affective states and of himself as the subject of these states.*—Introspection affords a unique and intimate insight into a subject's own inner life without which he could not even imaginatively envisage the internality of other subjects. Just how introspective self-cognition is achieved has already been fully described in the last chapter.

(4) *The correlation of a subject's perception of his own body (achieved by step (1)) with the system of introspected processes which constitute his mind (cf. step (3)).* This basic psycho-physical correlation is made at the common sense level and rests upon such familiar observations as that injury to a bodily member is accompanied by the feeling of pain. Indeed, the fact that injury to one of my bodily members is invariably accompanied by pain while injury to some other body is not, is one of the original grounds for considering the member in question part of my body and thereby differentiating it from other animate and inanimate objects. If the injury to any object were uniformly accompanied by a feeling of pain in me, I should for this reason alone assimilate that object to my body. The elaborate psycho-physical correlation achieved by modern physiological psychology is nothing but an extension and refinement of the elementary correlation made at the common sense level. This elementary correlation achieves the notion of the self as a body-mind unit.

(5) *The imaginative introjection of mental states and processes into the behaviour of other animate bodies.*—The knowing subject reads a mind into the behaviour of other bodies because of the similarity of their behaviour to observed behaviour of his own which he has already correlated (by

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step (4)) with the introspectively apprehended processes of his own mind. The imaginative reconstruction of other minds and their contents is analogous to the imaginative introjection involved in the perception of things. Just as in the perception of things the sense data suggest through association unsensed but imaginatively supplied ingredients which are fused with the sensuous ingredients into the integrated perception of a thing, so in the perception of other persons, the perception of their voices, facial expressions, and bodily attitudes suggest psychical correlates which are imaginatively projected into the mind "behind" those bodily manifestations. My percept of another's total personality consists of the percept of his bodily attitudes and behaviour *plus* the imaginatively supplied psychic ingredients which I am led to ascribe to him on the basis of analogies with my own introspective experience. This is the element of truth in the much maligned analogical theory of intersubjective cognition. The analogical theory is absurd if it is interpreted to mean that analogical reasoning is a part of every act of perceiving another mind, but if it is interpreted, in the light of the present analysis, as asserting only that analogical considerations play an important rôle in the initial apprehension of other minds, then it is certainly sound. Every "perception" of the contents of another's mind is mediated by the cumulative knowledge of psycho-physical correlations acquired by the individual from early infancy. A socially sensitive person has at his command a large accumulation of such analogical wisdom; he knows "intuitively", as we commonly express it, that such and such bodily reactions are the correlates of such and such states of mind. If these inferences which ultimately condition all intersubjective intercourse are formalized, they are typical instances of analogical reasoning. In the past whenever I have observed a certain bodily reaction in myself, I have found it invariably accompanied by a certain type of introspectively known, conscious-content. When, then, I observe similar reactions in organisms other than my own I infer the existence of a state

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of mind similar to that which has repeatedly accompanied this type of reaction in me.

The question inevitably arises as to whether, without analogical considerations of the sort just described, it would be possible for one mind to frame the image of another. Any answer to a hypothetical question of this kind must of necessity be highly conjectural. I should be inclined to answer in the affirmative in view of the psychological phenomenon of empathy which might suffice to yield knowledge both of the existence and of the specific contents of other conscious subjects even in the absence of all analogical evidence. If, as seems to be the case, every organism has a tendency, without any associative conditioning, to imitate a bodily attitude or reaction perceived in another organism, this might in itself induce belief in the existence of their minds. My imitative reaction to another's behaviour is accompanied by its peculiar subjective feeling, known inspectively or introspectively by me, and I at once experience a tendency to project my own psychic content into the other organism, the perception of whose behaviour originally produced the feeling in me. An illustration of empathetic communication between minds is a contagious yawn which initiated by one member of a company is communicated to all present. The perception of your yawn, which by some complex imitational mechanism makes me yawn also, conveys to me a coercive, one is tempted to say intuitive, impression of the state of boredom or fatigue which you experience. I imaginatively attribute to you my feeling of *ennui* because it was occasioned by my perception of a physiological response of yours. Examples of empathetic communication between minds can be multiplied endlessly and they suggest the possibility of an exclusively empathetic theory of the cognition of foreign subjects which would dispense entirely with all analogical considerations. Certainly if empathy is employed to explain intersubjective cognition, the apparent immediacy of that type of cognition is rendered more plausible than if we rely on analogical explanation.

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exclusively. Doubtless the apprehension of other minds depends upon the co-operation of the analogical and the empathetic. The belief in other centres of subjectivity, similar to the one with which each of us is introspectively familiar, rests upon structural and behaviouristic similarities between his and other human bodies as well as upon his instinctive empathetic responses to the overt action of those other bodies.

Memory, like perception, affords a primary cognition of other minds. Inter-personal perception is the acquaintance with other minds mediated by a *present* perception, inter-subjective memory may be defined as the apprehension of another mind which is mediated by a *past* perception of the bodily manifestations of the mind apprehended. This may occur in either of two ways: (i) the cognizing subject may recall the behaviour, speech, or expression of the other person and supply in the present a psychic interpretation of these, or (ii) the knowing subject may merely recall the psychic construction which he originally placed upon the other's earlier behaviour without recalling the behaviour itself. Thus I may remember another's outburst of anger which occurred yesterday either by conjuring up his angry words and looks or I may merely recall the emotion which I attributed to him yesterday because of these manifestations of anger. There is no difference in principle between these two modes of inter-subjective memory: the difference is merely a question of whether the imaginative introjection described in step (5) accompanied the original perception and was later recalled or whether this interpretative process occurs at the time of remembering.

In passing from the perception and memory of other minds to the more indirect and inferential modes of intersubjective cognition, it is difficult in certain border line cases to determine when non-inferential or primary cognition leaves off and inferential or secondary cognition begins. One interesting variety of intersubjective cognition is the "relayed" know-

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ledge of other minds—that is to say, the indirect knowledge of certain minds through the report of intermediary minds with whom the cognizing subject is directly acquainted. Thus the subject A may be cognizant of the mental contents of the subject B through the mediation of a third subject, C. Each subject intervening between the cognizing subject and the subject ultimately cognized produces a distortion which is analogous to the distorting effect produced by the physical media in the perception of things. To the degree to which A's knowledge of B is coloured by the peculiar mentality of C, D, and any other subjects through which the knowledge has been transmitted, error and illusion arise. C's description of B is not infrequently more revelatory of C than of B. The error introduced by transmitting minds—like the analogous perceptual error—can be corrected by someone who is independently familiar with the character of the distorting media—in this case the reporting minds. Knowing, as I do, the mental idiosyncrasies of a friend, I can correct his description of a third party otherwise unknown to me and thereby attain a fairly adequate representation of his personality and one which may be subsequently verified, corrected, or falsified by direct acquaintance with him. Direct personal acquaintance, although itself subject to error, is ordinarily more reliable than knowledge which has been subjected to the distorting effect of one or more intermediaries. To be sure there are exceptions. Thus the report of a friend of extraordinary personal insight and acumen may give me a more adequate knowledge of a third person than I could gain through direct perception. But even in this case, my reliance on the judgment of my friend rests upon long personal intercourse with him. Thus the final verification of all inter-personal knowledge is perceptual.

We must now seek to determine whether personally relayed knowledge of other persons is primary or secondary, non-inferential or inferential. (Now while it is undoubtedly true that inferences play their rôle in the acquisition of knowledge of this sort—more so perhaps than even in the perceptual

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apprehension of another mind—I am convinced that the resultant cognition should be classed as primary rather than secondary. When I apprehend a remote and unperceived mind through an intermediary, I do not infer the existence and the distinctive traits and contents of that mind from the descriptive phrases and imitative expressions of the intermediary—although undoubtedly such inferences are quite permissible—rather do I catch fleeting glimpses of that personality and enjoy a vicarious acquaintance with him. In relayed knowledge of other subjects I do not perhaps have the sense of personal presence which characterizes intersubjective perception and to a lesser degree intersubjective memory, but I do often have a sense of the unique flavour of the personality and not merely a number of descriptive propositions. Although not actually in the presence of the person known I am in the presence of those who have been in his presence, and thus I feel that my access to him is more direct than if it were inferred from impersonal effects or signs of the person. The personally mediated knowledge of another subject has a quasi-intuitive character which is in distinct contrast to impersonal, descriptive knowledge of the same subject. This type of knowledge is especially coercive when it has resulted from the impact of a great number of independent intermediaries. There is, let us suppose, in the community in which one resides a Dr. X whom one knows only by reputation. Now, although I may never have chanced to meet Dr. X, yet I may have a definite impression of him which is far more vivid than is the memory of many another with whom I am acquainted. My knowledge of Dr. X may, to be sure, be highly illusory and I may if I meet him experience a complete disillusion. It is, of course, theoretically possible that Dr. X is altogether non-existent, a fiction invented by my friends in a conspiracy to deceive me. But these possibilities do not detract from the vivid intuitional character of my present image of him, which as a vehicle of knowledge closely approximates an actual percept of him. Personally relayed knowledge often affords a virtual acquaint-

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tance with other minds and should accordingly be classified as primary cognition.

We have not yet exhausted the varieties of inter-personal cognition. There remains for consideration biographical cognition—*the knowledge of other persons through inferences and descriptions rather than through direct or mediated contact with them.* Biographical knowledge is here conceived more narrowly than is suggested by the ordinary meaning of biography. Biography, as a literary form, has as its purpose the description of the external circumstances, events, and behaviour of the subject, as well as of his subjective life, but biographical cognition in the present epistemological sense is restricted to the thoughts, purposes, motives, and emotions of the biographical subject, in so far as these shine through his words and actions. The best possible source of biographical knowledge in this restricted sense is a highly introspective autobiography or a psychological biography.

Biographical knowledge is conversant with personalities of whom we have neither a direct nor indirect acquaintance: they may be remote and inaccessible contemporaries or they may be historical figures. The affinities between historical and biographical knowledge are close: biographical knowledge is the counterpart in personal knowledge of the historical knowledge of things, indeed, biography may be defined as the historical knowledge of persons. Just as all historical knowledge has its basis in perception—either the perception by the knowing subject of a present object from which the historical object or event is inferable *or* the perception of a witness to the event whose testimony or records constitute the evidence for the event—so does all biographical knowledge involve at some juncture, direct perceptual acquaintance with the biographical subject. I may, on the basis of my present perception of a contemporary subject, infer his mental constitution at an earlier period in his life, or I may rely on the memoranda of those who perceived the subject in the past and recorded his mental states. As every item of historical knowledge is ultimately traceable

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to someone's perception, so biographical knowledge invariably rests upon someone's "perception" of the mind of the biographical subject—this someone being either the biographer himself or some contemporary of the biographical subject upon whom the biographer relies. Subjective autobiography is no exception, since it rests upon introspection, that is to say, the biographical subject's self-perception. Biographical knowledge thus frequently resembles personally relayed knowledge—the difference being that in the latter the knower is acquainted with the relaying subject, whereas in the former he has access only to written records and documents which describe the biographical subject.

Although ordinarily biographical knowledge is a substitute for perceptual knowledge, when conditions render the perception of the subject either difficult or entirely impossible, it is sometimes possible to have both perceptual and biographical knowledge of the same subject. Thus one may become acquainted with another of whom he has previously had only biographical knowledge—as when one is introduced to a celebrity—the acquaintance affording an opportunity of verifying or falsifying perceptually his earlier biographical impressions. Such perceptual verification is, as has already been pointed out in another connection, only relative since one has no assurance that his own impression of the great man is more reliable than the biographer's.

Fictional cognition may be considered a subvariety or rather a limiting case of biographical cognition. Fiction and biography are allied literary forms—fiction is, in fact, nothing but imaginative biography, and I shall maintain that fictional cognition, despite the unreality of the persons with which it is conversant, is in its epistemological essentials the same as biographical cognition. *By fictional cognition, I shall understand the description of imaginative and non-existent personalities.* Fiction, like authentic biography, is a descriptive cognition of persons expressed in the medium of written discourse; the existence of the persons described in the one case and their

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non-existence in the other does not affect the character of the cognitive situations. When I think *of* a real person by the aid of biographical description, and when I think *of* a character of fiction or the drama, the cognitive and referential situations are identical—except that in the one case I think of the historical personage as having been existent, and in the other case I think of the fictional character as purely imaginary. The ontologic fact of existence in the one case and non-existence in the other entirely transcends the present epistemic situation, and important though it be when questions of truth and falsity are involved, it in no way modifies the epistemological analysis. The real object of cognition—supposing that there is one—is not a part of the cognitive situation. My “knowledge” of Hamlet as a Shakespearean character is in its *intrinsic* nature no different from my knowledge of Socrates; the two situations are epistemically similar though ontologically very different.

Fictional and biographical cognition should, I think, be classed as secondary or inferential cognition. The reader of a biography or a novel is confronted with conventional symbols—words on the printed page—which provide the clues to the complete imaginative reconstruction of the personality described by the biographical or fictional account. The perceptual experience, which occasions the cognition of the biographical or fictional subject, bears not the slightest resemblance to the bodily appearances of the subject known and, consequently, there is no sense of the real presence of the personality except that supplied by the reader’s imagination. Biographical knowledge of other subjects is thus the exact analogue of historical knowledge of past events. The imaginative reconstruction of historical personalities and their inner experiences is achieved by inferential and hypothetical methods similar to, although far more complex than, those whereby historical events are reconstructed.

Although biographical knowledge must be classified as secondary because it is mediated by artificial signs and because

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of the prominence of the inferential elements, it must be acknowledged that when the reader possesses subtlety and discernment, his knowledge of an historical or fictional figure may be almost indistinguishable from perception and the other forms of primary knowledge. The reader of great literature often ceases to be aware of the conventionalities of language and the intricacies of logical inference involved in the understanding of it, and to catch glimpses of the actual personality depicted. Thus Socrates and Hamlet may be as "real" to a modern reader as if he had encountered them in the flesh. Under these circumstances biographical knowledge approximates perceptual knowledge of personalities, just as imagination of things may become so vivid as to be indistinguishable from perception, but the gulf between the two types of knowledge remains.

The foregoing account of intersubjective cognition has sought to describe how the belief in other minds arises, and not whether the belief is legitimate. The question of the genesis and the question of the legitimacy of a belief are quite distinct: the former is epistemological and the latter strictly ontological. To ask whether or not the belief in other minds is justifiable is to ask whether in fact there are other minds, and this is certainly a question regarding the constitution of the real. The epistemological issue regarding other minds is doubtless sufficiently independent of the metaphysical issue to enable us to maintain the referential theory of other selves, even if there were in fact no other minds. The apprehension of and belief in other subjects is incontrovertible, and the explanation of the several types of intersubjective cognition given above might be psychologically and epistemologically correct, even if there were no independently existing subjects. Yet the denial of other minds, if it were justified, would have such serious epistemological repercussion that no theory of intersubjective cognition can afford to neglect it entirely. The attack upon other minds has assumed two utterly different

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and utterly antithetical forms, namely, solipsism and behaviourism. Solipsism, which is a subtype of metaphysical idealism, denies the existence of other minds, while stoutly affirming the existence of the solitary mind. Subjectivism, with its denial of the cognitive transcendence of the cognizing subject, is the epistemological counterpart of solipsism. Behaviourism, on the other hand, is the lineal descendant of metaphysical materialism, and it is committed to a denial of *other* minds by its blanket denial of *all* minds, including the cognizing subject.

Solipsism is, as I have already suggested, a metaphysical rather than an epistemological hypothesis, and yet if the solipsistic challenge were sustained, all cognition of other subjects would be reduced to the sheerest illusion. Solipsism is the denial of authentic intersubjective cognition for the simple reason that it is the denial of the very existence of a foreign subject to be cognized. The issue raised by solipsism is this: are there any instances of either wholly or partially veridical cognition of other minds, or is all such cognition hallucinatory? Solipsism, since it denies the very existence of other minds apart from the representations of them in the mind of the solitary knower, is committed to the illusoriness of all professed intersubjective communication. Solipsism is an essentially negative position and shares with agnosticism, atheism, etc., the inherent logical weaknesses of such a philosophy. A negative proposition of existence cannot be established by pure logic unless it can be shown that the entity, the existence of which is under scrutiny, is a literal self-contradiction, and certainly the supposition of a mind or minds existing independently of my mind is not self-contradictory. Neither can a negative proposition be conclusively established by experience—as some affirmative propositions can—for the *absence* of a describable entity from any restricted domain of experience is no guarantee of its non-existence. Every negative existential proposition is in reality a proposition about the totality of existents: "A does not

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exist" is equivalent to "No existent has the descriptive properties symbolized by A". Experience could authenticate a negative proposition of existence only if the two following conditions were simultaneously fulfilled: (1) the existential order were shown to consist of a finite number of items, and (11) the existential order were exhaustively catalogued, with the result that the entity whose existence is in question was not found among its constituents. Since these conditions are never, in fact, satisfied, any proposition of non-existence is highly problematic. The solipsist's *assertion* of the existence of himself as an introspective subject has—apart from the difficulties inherent in the introspective situation—a strong presumption in its favour; his *denial* of the existence and cognizability of other subjects is supported only by such tenuous and inconclusive considerations as: (1) the solipsist's ability to interpret all apparent manifestations of other minds in terms of the solipsistic hypothesis—for even the solipsist does not deny that he and other subjects seem at times *en rapport*—and (11) his ability to refute all arguments which have been adduced in favour of the opposing theory of multiple subjects. As regards (1), it must be acknowledged that solipsism is on the whole successful, the solipsist can, by the exercise of ingenuity and resort to an occasional *tour de force*, reduce other subjects to mere representations of his own mind. This is not surprising since, according to the theory of intersubjective cognition here defended, the other subjects are known only referentially and by representation. Thus the ability of the solipsist to give a reasonably coherent account of intersubjective or social phenomena in terms of the solitary mind does not in the least militate against the independent existence of other subjects. As regards (11) the solipsistic position is exceedingly vulnerable. Maintaining as it does the negative proposition: "There are no subjects except the solipsistic subject himself", solipsism must be prepared to meet every argument for the existence of other selves. The solipsist is in the uncomfortable position of a single warrior

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who, although he occupies a seemingly impregnable position and has hitherto successfully warded off every attacker, is yet surrounded by so many potential enemies that no matter how many he may destroy, he is constantly menaced by new enemies and if only a single outsider succeeds in entering the solipsistic fortress, his position is for ever lost.

The analogical argument, despite its weaknesses as an explanation of the mind's original apprehension of other minds, is damaging to solipsism. The belief in other minds may originate in some empathetic response to other personalities as it may rest upon some instinctive sense of kind, but the ground and justification of this belief is analogical reasoning. I shall, accordingly, re-examine the analogical argument considered as a refutation of solipsism. The argument is briefly and essentially this: there exists an observable correlation between my bodily behaviour as perceptually observed and my conscious processes as introspected, but I observe in others (that is to say, in other human bodies) behaviour similar to my own—behaviour which includes such complex and highly integrated responses as articulate language professing to report the other subjects' inner thoughts and feelings. There is, therefore, a strong presumption in favour of the existence of other subjects who, like me, are capable of introspective self-awareness. This argument conforms to the familiar pattern of analogical reasoning. The other mind, whose existence is posited, bears the same relation to his body as does my mind to its body. Three items of this proportionality are observable, namely, (1) my mind, (2) my body, (3) the other body, whereas item (4), the other mind, is inferentially supplied. This argument stated as a quasi-mathematical proposition becomes:

$$M_1 : B_1 = M_2 : B_2$$

where M_1 is my mind; B_1 my body; M_2 , the other mind, and B_2 its body. M_1 , B_1 , and B_2 are "known quantities" and M_2 is the "unknown quantity" determinable by the equation.

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The inference to other minds is, as has been already emphasized, mediated by the correlation between my mind and my body. Not only is this correlation obvious to ordinary observation, but it is confirmed in detail by the researches of physiological psychology. The analogical argument for other minds may be challenged on the ground that the empirical correlation upon which it rests adduces only a single instance, namely, the correlation of my mind with my body, and that in the nature of the case this is the only instance adducible. The citation of other instances of psycho-physical correlation would be circular, for it would involve the admission of the existence of other minds which is the very question at issue. Thus the analogical argument for other minds is beset by a limitation not encountered in those cases of analogical reasoning which have an adequate inductive basis. How, it will be asked, can a generalization supported by a single instance carry the heavy burden of the argument for other minds? The answer to this plausible objection is that the psycho-physical correlation of M_1 with B_1 is not in fact a single instance, but a summation of innumerable psychoses and their concomitant bodily responses. The psycho-physical correlation would thus have an adequate inductive foundation even if solipsism were correct and I were the only person in existence.

The analogical argument for the existence of other minds is, like all analogical reasoning, inductive and hypothetical in its procedure. The initial psycho-physical correlation between consciousness and bodily response rests on induction, and the positing of the existence of an alien subject correlated with the observed behaviour of another is a philosophical hypothesis which does not differ in its logical character from existential hypotheses in science, such as the geological hypothesis describing the conditions prevailing as centre of the earth, astronomical hypotheses regarding the habitation of another planet, or the chemical constitution of a remote star. We accept the hypothesis of other minds similar to our own

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because this hypothesis is conformable with the behaviour of other human beings, and because by attributing consciousness to them we can more readily predict their behaviour than on the assumption that they are mere unconscious automata. The positing of other minds, since it rests on induction, analogy, and hypothesis, can claim only probable truth—never absolute certainty. Propositions about the existence and the contents of other minds are not on this account inferior to other propositions of science and philosophy, since all such propositions are, with the possible exception of inspective propositions, problematic in character. The affirmation of the existence of another mind, though perhaps never equal to the certainty of inspective propositions, may attain a very high degree of probability.

Since the analogical argument appeals to perceptual as well (as introspective evidence— B_1 and B_2 both being perceptual) objects—the question inevitably arises as to whether the cogency of the argument depends upon the acceptance of perceptual realism. Does the positing of other minds require the real and independent existence of their bodies, or would the analogical argument be valid even though my body and the other body were nothing but phenomenal appearances to the solitary mind? Now, although the analogical argument for other minds is more plausible on the assumption of perceptual realism, this assumption is not necessary to the argument. The argument appeals only to a phenomenal correlation between the introspectively known processes of the cognizing mind and the extrospectively observed behaviour of his own body and the bodies of others; it does not require at any stage the hypothesis of perceptual realism, namely, that my body and the perceived bodies of others exist independently of my act of cognition and persist even when unperceived by me. A realistic interpretation of other minds may be established quite independently of perceptual realism and the epistemological solipsist in admitting the mere representation of other human bodies within the solitary mind concedes all that is necessary

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for the purposes of the analogical argument for other minds. The two essential steps in the analogical argument, namely, (1) the correlation of my conscious processes as introspected with my body as perceived, and (11) the discernment of an essential similarity between my body and that of another, may both be established at the phenomenal level without making any assumption regarding the ontological or epistemological status of the bodily organism. Perceptual realism is not involved in the argument for other minds and a perceptual idealist can quite consistently affirm the reality of other subjects.

Now solipsism is not alone in denying the possibility of intersubjective cognition, for obviously the extreme behaviourist in denying the existence of all psychic subjects abolishes at a single stroke the possibility of both introspective knowledge of oneself and extrospective knowledge of other subjects. Thus behaviourism and solipsism, though otherwise antithetical doctrines, agree in their emphatic repudiation of other minds. Behaviourism reduces other persons to elaborate patterns of response, while solipsism reduces them to images resident in the solitary mind, but both equally dispense with foreign subjects as independent psychic centres. Behaviourism appears to be the more consistent view, since it denies the existence of *both* the cognizing subject and the foreign self cognized, whereas solipsism admits the former and denies the latter, but when the two positions are more closely examined, behaviourism is found to be the less tenable of the two. Behaviourism must acknowledge the cognition of behaviour—for is not the behaviouristic psychologist an expert in precisely this kind of knowledge?—and yet how can knowledge of any sort exist without a cognizing subject? If the behaviourist himself is—as his theory would seem to demand—nothing but a system of behaviour patterns, such a system cannot cognize and theorize about other such systems.

The analogical argument for other subjects is valid even,

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though their bodily manifestations are, as idealists contend, mere representations of the cognizing subject. In other words, a realistic interpretation of intersubjective cognition is quite compatible with an idealistic account of the perceptual situation. The spiritual pluralisms of Berkeley and Leibniz have been challenged because they employ the analogical argument to escape from solipsism, and it is contended that this argument is inconclusive because these authors are committed to an idealistic interpretation of human and animal bodies. This criticism is unfair because the analogical argument is found upon close examination to make no assumptions whatsoever regarding the status of perceptual objects in general and of bodily organisms in particular. There are, however, good grounds for accepting the hypothesis of perceptual realism in preference to idealism either of the pluralistic or absolutistic type. Thus although intersubjective realism (the positing of foreign subjects) may be established independently of perceptual or physical realism (the positing of an external world) the latter theory strengthens and reinforces the former. The continued existence of another subject during an interperceptual interval is rendered more plausible on the realistic assumption that his body is a persistent object than on the idealistic assumption that it temporarily lapses from existence, when unperceived and is re-created when perceived again. Suppose, for example, that I have conversed with another, that is to say, I have "perceived" his personality and then after he has departed I continue in his absence to believe in his existence and to think about his present state of mind. What are the grounds and justification of this belief? On the hypothesis of spiritual pluralism and perceptual idealism, the affirmation of another's existence while he was in my presence was validated by analogical considerations, but the assertion of his continued existence now that he is no longer perceived by me requires some additional proof, such as the appeal to the principle of psychic conservation—a principle which when carried to its extreme limit yields one of the familiar arguments

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for the immortality of the soul. The sole justification of the idealist's belief in the continued existence of another self during an interperceptual interval is that it affords the best explanation of the reappearance of the same self at the end of the interval. A physical realist, however, derives further confirmation of his belief in the continued existence of another subject from his realistic affirmation of the continued existence of the bodily conditions of consciousness. The body persists during the interperceptual interval, the mind is functionally dependent upon the body, hence the mind continues to exist also. Thus physical realism affords a more convincing validation of the persistence of other centres of consciousness than does idealism.

The persistence of other minds during interperceptual intervals is not in all probability as uninterrupted as is presumably the existence of physical objects. There may be prolonged lapses of consciousness during a dreamless sleep or under the influence of anaesthetics and other drugs, or as a result of brain injury—periods during which consciousness is temporarily in complete abeyance. Moreover, it is quite possible that there are brief gaps even in the normal, working consciousness. Consciousness may be flickering and intermittent like the successive images projected on a motion-picture screen, which, although discrete, are resembling and continuous. Even if consciousness were intermittent it would be exceedingly difficult to verify the fact introspectively because of the virtual indistinguishability of the conscious state before and after the brief interval. Interruptions in the stream of consciousness—whether of brief or long duration—are not necessarily inimical to the persistence of other minds during interperceptual intervals, for they preserve in spite of such interruptions a virtual identity. A realistic theory of intersubjective cognition requires only that the other self shall exist at times when I am not perceiving it and that its existence at such times shall be substantially identical with actual states of that self perceived before and after the lapse.

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The most reliable evidence for the existence of another self at times when he is unperceived by me is his own subsequent report, based on memory and introspection, that he existed at such times. Intersubjective realism, that is to say the assertion of the continued existence of other subjects and their independence of being known by me, is like physical realism, an hypothesis dependent upon indirect evidence.

The intuitional theory of interpersonal cognition enjoys a wide acceptance, for there is no type of cognition—with the possible exception of introspection—which seems to be more direct and immediate. One's intimacy with another personality is surpassed only by one's intimacy with oneself. I shall, therefore, proceed to examine the claims of intuitionism before rejecting it in favour of a referential theory of intersubjective cognition. The intuitional theory asserts that interpersonal cognition is direct and immediate—that when one subject cognizes another he apprehends that other's conscious content precisely as each introspectively apprehends his own. The privacy which is generally supposed to characterize the subjective is repudiated by the intuitional theory, for it regards other minds as public objects. The intuitional theory of interpersonal cognition is the presentational theory of the perception of things extended to the perception of persons. The presentational theory of perception affirms that the colours, tastes, and other sensible qualities of perceived objects are immediately and identically apprehended by all percipients; similarly the intuitional theory of interpersonal knowledge maintains that the thoughts, feelings, emotions, and volitions of one subject can under suitable conditions be directly scrutinized by another subject. The identical content which you apprehend introspectively may be apprehended intersubjectively by me and in both cases with the same immediacy, so that I can, under favourable circumstances, inspect your subjective content precisely as you can inspect your own.

Intuitionism of the form just described may be criticized in

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a purely formal way. Let us suppose that a subject, S_1 , is inspecting a private, or rather on this view semi-private, content, say his feeling of pain, P , and that another subject, S_2 , establishes sympathetic *rapport* with S_1 , so that he too simultaneously apprehends the identical unpleasant feeling, P . It is difficult to see how the intuitional theory can escape the admission that the feeling of pain, P , is as much S_2 's feeling as it is S_1 's, with the consequence that P is a public quality indistinguishable—except as to locus—from colours, tastes, and other sense qualities. The only difference between my experience of your pain and my experience of my own pain is that in the one case I localize it in your body and in the other case I localize it in my own. This theory, by completely breaking down the barriers between minds, makes nonsense of interpersonal cognition.

The prevalence of the belief in the immediacy of cognition of other selves is not surprising when one considers the facility with which minds communicate when after repeated intercourse they become highly sensitive to one another's thoughts and feelings. Between minds united by bonds of friendship or love the illusion of temporary identity is almost complete; such minds have become in their own eyes at least "two minds with but a single thought". The fusion of ego and alter-ego into the unity of a higher self has been seriously affirmed by romantic idealism with its apotheosis of the interpersonal relation, but the theory rests upon a delusive feeling of identity and cannot be defended as a serious epistemological hypothesis.

A possible alternative to the intuitional theory, which like it acknowledges direct interpersonal cognition, is the theory of mental transference implicit in the vague notions of mental telepathists and other occultists. The theory, although without official epistemological champions, is, nevertheless, in many respects superior to the highly respectable intuitional theory. According to this theory a "thought", present at one time in the subject, S_1 , vanishes only to reappear at a later time in some other subject, S_2 . The transfer is effected in some

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mysterious fashion without benefit of the sense organs of the recipient or any other physical linkage between the bodies of the communicating subjects. The thought, t_1 , which first appears in S_1 , is *substantially*, though perhaps not *numerically*, identical with the thought t_2 in S_2 . The superiority of the mental transference theory to the intuitional theory is its ability to preserve the privacy of the thoughts of different persons, and yet to permit the appearance of the same idea in two different minds. Mental transference does not obliterate the gulf which separates one mind from another, but it does permit two minds to apprehend in succession an identical content. The principal objection to the mental transference doctrine—apart from its occultism in positing a mysterious extra-sensory communication between minds—is its assertion of the substantial identity of a given thought in two different minds. How can the identity of a thought, t_1 , in a mind, S_1 , with a thought t_2 , which subsequently appears in a subject S_2 , be meaningfully asserted when t_1 can never be directly scrutinized by S_2 , nor t_2 by S_1 ? Furthermore, if literal transference actually takes place, t_1 would have to disappear from S_1 before it could identically recur as t_2 in S_2 , but it is a matter of common experience that I do not lose my thoughts as soon as I have succeeded in communicating them to another. I continue thinking my thoughts even after they have been shared with another mind. Is it not much more reasonable to assert that t_2 is an imaginative reconstruction by S_2 of a t_1 , which has been suggested to the latter through the medium of language?

The theory of interpersonal cognition which has emerged from the foregoing analysis is a referential theory analogous to the referential theory of ordinary perception. The perception of another mind is a reconstruction by the knowing subject of the contents and processes private to other subjects. Just as the ordinary percept consists of a sensuous nucleus and an interpretative fringe, so in the perception of other minds the perception of bodily behaviour affords a basis for the inferential construction of a mind behind the bodily

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manifestations. My percept of another mind is my own imaginative reconstruction of his subjectivity, and even when I enter most sympathetically into the thoughts and feelings of another, I remain at home with myself and only imaginatively install myself within the private precincts of his inner consciousness.

There is a sense in which every person enjoys complete and absolute privacy in that no one can share with him the unique inspective and introspective knowledge which he has of himself and of his states. This exclusiveness of the mental life is a source of great comfort to many. I recall a friend who, fearing the prospect of having his home invaded by outsiders, remarked with great feeling: "Well, at least I shall not have to hold mental open house." He could tolerate having his home overrun, but could imagine no more fiendish torture than to have other minds encroaching on the privacy of his consciousness and peering into every nook and corner of his mind. Fortunately, every mind is protected against the encroachment of other minds by gulfs which William James has described as the "widest in nature".¹ Another person may know as much—indeed in some respects he may know much more—*about me* than I know about the operations of my own mind, but he cannot share with me the unique flavour which my experiences possess by virtue of their being mine.

To sum up, the referential theory of interpersonal cognition consists of two complementary tenets: (i) the affirmation of the privacy of the individual subject, and (ii) the assertion that knowledge of other subjects is achieved by imaginative reconstruction on the basis of analogy. (i) The content of a given subject is directly accessible to that subject and to no other. I am incapable of literally sharing your sense data, your memories, feelings, and emotions, and yet (ii) the privacy of your mental states does not preclude interpersonal communication, for I can imaginatively reconstruct your inner life. The reconstruction and its original remain, however, two

¹ *Principles of Psychology*, vol 1, p 226.

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distinct things—the reconstruction is always *my* reconstruction and is limited in its range and richness by my own capabilities and limitations of experience. My knowledge of you is often as much a reflection of me as it is of you, and yet clearly, although coloured by my personality, it differs from my knowledge of Smith or Jones. The inability of one mind to become an object of direct acquaintance for another does not preclude cognitive intercourse between the two. The barriers between minds—wide though they be—are no more insurmountable than those separating minds from physical objects. When I perceive your body, I am as completely isolated from the physical parts constituting it as I am from your mind. Thus the referential theory of cognition applicable to the other types of cognition may be extended without essential modification to embrace interpersonal cognition as well.

CHAPTER VII

*Conceptual Knowledge*¹

THE mind tends to believe that there is a real object for every thought it entertains. This tendency to objectify is so deeply rooted in man that he comes only gradually and reluctantly to the recognition that there may be objectless thoughts: Percepts, memories, imaginings, and even dreams and hallucinations, are all clung to with equal tenacity until the exigencies of life render imperative a distinction between thoughts *with* and thoughts *without* objects. The urge to objectify is by no means confined to the plane of primitive and unreflective thinking; it persists on the higher levels of science and philosophy. Not a few of the great philosophical systems of the past rest on the assumption, usually tacit, though occasionally explicit, that for every thought there must be an appropriate object. So frequent and so important is this assumption that it deserves a label: let us refer to it hereafter as the "principle of objectivity" or the "ontological postulate". To mention a few notable examples: Pythagoreanism involved the objectification of the number-concept; the Eleatic philosophy is the entification of the concept of Being; and the transformation by Plato of the Socratic concepts into "forms" is mediated by the same principle. Spinoza's so-called rationalistic postulate—"the law and order of things is the same as the law and order of ideas"—and even Hegel's assumption that "the rational is the real and the real is the rational" are variants of the principle of objectivity. J

¹ This chapter was originally published as an article entitled "Concepts and Objects" in *The Philosophical Review*, XLV, 4, pp 370-81, and is included in the present volume with the kind permission of the editors.

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The epistemological theories of the more radical of recent realists represent a consistent and thoroughgoing application of the principle of objectivity. A realist of the extreme type finds objects for all mental representations whatsoever—whether perceptual, conceptual, imaginative, retrospective, anticipatory, or hallucinatory. Perceptual realism is the theory of the objectivity of perceptual knowledge. Similarly realism in the scholastic sense posits universals as the objects of conceptual knowledge. An analysis of the knowledge-situation at the conceptual level is, accordingly, the proper approach to the problem of universals.

In what sense if any do concepts have objects? The radical realist would reply that the universal is the literal object of a concept in precisely the same way in which a physical thing is the object of my percept, or an earlier state of my mind is the object of an act of introspection. As the real physical tree is to my perception of it, so is the universal "tree" to my concept "tree". Indeed a universal may be defined as the literal and appropriate object of an abstract or generic concept. Now if the postulate of objectivity be valid, it is legitimate to argue from the definition of universals to their objective reality. This we may call the ontological argument for universals. The universal, at least so the argument runs, provides just the sort of object which the concept demands. Moreover the theory of universals affords an admirably simple account of conceptual knowledge—a correspondence theory of *a priori* truth. Just as the truth of perceptual knowledge is considered by many to be a correspondence between percept and perceived object, rational truth may be interpreted analogously as a correlation between concepts and universals. The theory is epistemologically intriguing, since it satisfies our natural craving for objectivity and at the same time explains so simply the validity of *a priori* knowledge, but I fear that it is not well grounded. Is not the philosopher who relies on the objectivistic postulate a victim of wishful thinking? What assurance has he that reality provides just those conceptual objects which the realistic

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temper of mind so fondly desires? A realm of logical or neutral entities complicates the whole metaphysical situation to such an extent that it should be resorted to only after every other expedient has failed. Is it not possible to do justice by the objectivity or seeming objectivity of the concept without acknowledging objective meanings, essences, or universals?

Thus the main problem confronting a non-realistic theory of conceptual cognition is one of accounting for the transcendent or objective reference of the concept. Having deprived the concept of its literal object, some other way of interpreting its objectivity must be found. There are at least four devices for accomplishing this. (1) The object of the concept is a class or aggregate of particulars. (2) The object of the concept is the relation of resemblance or similarity between particulars. (3) The concept has no literal but only a hypothetical or supposititious object. (4) The object of the concept is a diaphanous universal, resident in the particulars. These devices are by no means mutually exclusive. Indeed the conceptualism defended in this paper combines views 1, 2, and 3.

Proposition 1 is valid within limits and subject to certain qualifications. It is necessarily restricted in its application to concepts of actually existing things. The object of my concept of a class of existent things—such as tables, books, trees, men—is the totality of the members of the class. It is to be observed that the totality does not exist as an objective fact; the individuals exist, but they constitute a totality only for the mind which selects them. The selection *may* be arbitrary, but it is usually governed by a principle or purpose.

Resemblance or similarity is the guiding principle in the constitution of most if not all actual classes. And thus we see that proposition 2 is a necessary supplement to proposition 1 if classes are to be more than haphazard selections of individuals. Individuals are selected by the mind to form an aggregate because of their resemblance in some significant respect, and thus resemblance has to be incorporated into the complete definition of conceptual objectivity. The object of

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the concept is not the bare particulars, but the particulars in their resemblance to one another. This statement is not to be interpreted as meaning that the relation of resemblance is a real entity on a par with the resembling particulars; on the contrary the hypostatization of resemblance is almost as objectionable as the realistic entification of universals from which we are now trying to escape. But if resemblance is not an objective relation subsisting between the resembling terms, what is its status? We cannot reply that it is purely subjective, dependent entirely on the mind's act of comparison, for resemblance is too uniform and coercive to be disposed of in this way. I can no more refuse to acknowledge the similarity of two red patches before my eyes than I can avoid seeing the patches themselves when my eyes are open and the other conditions of vision are fulfilled. From this it must be concluded that comparison reveals but does not generate similarity. Even though the similarity itself is not objective, there must be an objective ground or basis for the similarity discovered by comparison. The real or objective basis of qualitative similarity is not, we insist, a similarity between the terms apart from the act of comparison, it is a quantitative or structural identity between the objects capable of producing similar sense-qualities in us. The two objects are not *in themselves* similar, but they are so constituted that, when they are simultaneously apprehended by the mind and are compared, they are immediately—one is tempted to say intuitively—recognized as resembling one another. To be sure it may be convenient to speak of a resemblance between physical objects, just as we commonly ascribe the sense-qualities to them; but this usage is not strictly accurate. The epistemologist cannot afford to confuse the similarity between two red patches with the identity of surface-structure of the corresponding physical objects and the equality of the light-waves emanating from the two surfaces. Qualitative resemblance depends partially on the comparing mind and partially on the structure of the objects. Resemblance, conceived in this way, is an essential

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factor in the concept; the object of the concept is the aggregation of resembling particulars.

Proposition 3 is also indispensable in the interpretation of the more abstract concepts of science, mathematics, and philosophy. There is at least a reasonable doubt whether the physical concepts of the atom, the electron, energy, and the like—involving, as they do, elaborate inferences and constructions—have literal objects. But whether we adopt a literal or a fictional view of the concepts of natural science, we cannot deny that mathematical concepts like number and infinity, and philosophical categories like possibility, contingency, and negation, are only quasi-objective.

Proposition 4 I reject entirely. The attenuated universal, however thinly spread over a number of particulars, is still a universal. A universal “in” the particulars is no less objectionable than the universal “above” or “behind” the particulars. If anything, the universal fused with the particular is less intelligible than the universal which stands apart.

Although we quite naturally speak of the object of a concept, it is clear from what has just been said that such an object does not literally exist. The concept is “objective”, *i.e.* it “intends” an object; but there is no reason to suppose that there is an actual entity corresponding to the concept. While the concept may have no actual or veridical object, it always has a hypothetical or supposititious object.

Let us now analyse the entire conceptual situation in order to discover the nature of the concept’s objectivity. The concept *itself* is an existentially unique and unrepeatable mental event. This means that the concept is a determinate existent occurring at a given time in the conscious life of an individual mind. It cannot be literally shared by more than one mind nor can it recur identically even in the same mind. My present concept of “chair” and the one which I entertained yesterday are numerically distinct and qualitatively different psychological occurrences. This is not to deny that the two concepts may be concepts *of* the same “object” and thus, in a sense, the same

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concept. Even more obviously the concept of chair now entertained by my neighbour is quite distinct from mine, but here likewise our disparate concepts may have a common reference or meaning which permits us to converse about chairs in the "abstract". When we say that the *same* concept cannot be shared by more than one mind and that the identical concept cannot recur in the individual mind, we are employing the terms "same" and "identical" in a strict and absolute sense. For the identical recurrence of a concept, the original concept would have to reappear unmodified and unchanged. The "concept" cannot escape the corrupting influences of time. Absolute identity, if there were such, would virtually lift the concept out of time. The annihilation of temporal distinctions in the eternity of the concept is a misconception for which the supposed timelessness of universals is largely responsible. Epistemologists in hypostatizing and eternalizing the concept and in assuming that a concept can be identically repeated in more than one mind are unconsciously embracing the theory of universals. Even associationist psychology with its incorruptible "ideas" which appear and reappear in varying combinations, has unwittingly fostered the universals of an outmoded philosophy. Are not simple ideas as epitomizations of sense-qualities suspiciously like the essences of traditional realism?

The abandonment of the absolute identity of the concept gives rise to certain difficulties. How is it possible to explain the ability of the mind to define and fixate concepts, to adhere consistently to definitions throughout long sequences of reasoning, and to communicate to others precisely defined concepts? These questions are crucial, and the ability or inability of any form of conceptualism to deal with them will determine the worth of the position. The solution of these difficulties is *not* to be found in the concept regarded as a brute psychological fact—a bare particular in the stream of mental events. Herein lies the failure of nominalism in its extreme form. The clue to the concept's constancy of meaning

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and objectivity of reference is to be found in the psychological factor of intent by which we have sought to account for the transcendence of other forms of knowledge.

The concept is characterized by "intent"; that is, it contains within itself a reference beyond itself. The intentional aspect of the concept is perhaps its most elusive and ineffable feature. Other primary dimensions of the concept, quality, intensity, and duration, are fairly easy to identify and describe; but intent seems to defy the analytical and descriptive procedure of psychology. So much so that not a few psychologists have failed to take account of it altogether. We do not propose to explain *how* a concept is capable of a transcendent reference; we do, however, insist *that* it has this ability. There can be no doubt about the reality of intent as a psychic fact. The "intent" of a concept is revealed by careful and painstaking introspection to be as inseparable from it as its intensity and duration. The concept deprived of its intent would lapse into a condition of pure *aesthesis*. Intent is not a mere addendum, superimposed on a pre-existent concept; the concept is intrinsically and inalienably intentional. When it ceases to be intentional, it ceases to be a concept.

Intent we described as that "within a concept which refers beyond itself". This formula, vague though it seems, is accurate, and should suffice for the identification of intent when we come upon it in our conscious experiences. Intent is the name for the self-transcendence of the concept, the fact that it points to or "intends" an object. I cannot entertain a concept unless it be the concept *of* something. I have a concept *of* a table, *of* a triangle, or *of* a number; in each case the preposition *of* expresses my intent or meaning.

The difficulty of describing intent is in large measure due to the fact that it is peculiarly a conscious attribute and has no exact analogue in the physical world. Mental duration is analogous to the duration of physical events; the same is true of intensity, quality, and other fundamental traits of consciousness. But not so with "intent". One physical object cannot,

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in itself, mean or intend another physical object. To be sure, words on a written page or sounds spoken or heard may have a meaning, but solely because of the supervention of a mind. Indeed, intent is so peculiarly mental that it might well be taken as a defining trait of the mental. A mental event is one which can be the vehicle of meaning; intent is a very satisfactory criterion of mentality.

The elusiveness of intent or meaning has led some psychologists as well as philosophers to deny its *existence* and to view it as *subsistent*. No more indefensible procedure can be imagined. The nature of meaning is in no wise clarified by relegating it to a limbo of subsistence. If meaning is difficult to comprehend, the mystery is if anything increased by transporting it from the realm of existence to that of subsistence. As well might one argue that a vague organic sensation or a subtle and indescribable emotion is a subsistent meaning. Like any other psychic phenomenon intent belongs to the existential world.

The relational theory of meaning to which the intentional theory is opposed asserts that meaning is a unique and indefinable relation obtaining between terms in themselves meaningless. Thus two terms, say a symbol and the thing symbolized, a concept and its object, are conjoined by the meaning-relation. This view of the meaning-situation, if it is not entirely false, is certainly misleading. In the first place, it assumes that the meaning-relation, while it may obtain between a mental representation, say a concept or a judgment, and its object, may equally well obtain between objects independent of the mind. My thought is meaningfully related to its object, but objects may according to this theory mean or symbolize one another without benefit of mind. Now we have seen that intent, which is only another name for meaning, is an inalienable property of the mind, and that extra-mental objects are meaningfully related to one another only through the good offices of the mind. Whatever our view of other relations the meaning-relation is most assuredly mind-constituted. The locus

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of meaning is the interpreting mind, and were all minds annihilated meaning would entirely vanish from the world. The intentional theory of meaning is *idealistic* to the extent that meaning is mind-derived and mind-dependent; it is compatible with certain tenets of *realism* in that the items to which meaning is attributed may be and indeed usually are independent of the mind. The symptom which reveals disease is as real and objective as the disease itself, and the two are connected by an objective relation, causal or some other; but the meaning resides solely in the mind of the physician who makes the diagnosis. Meaning does not exist in its own right, but is projected by the interpreting mind.

From what has just been said, it is evident that meaning is *not* in the strict sense a relation. It is a *relating* activity, which inheres *in* the interpreting mind but does not hold *between* the terms themselves. As such it belongs under the category of quality, not of relation. However, meaning *is* quasi-relational. When things are meaningfully co-present to the mind, it is *as if* there were a relational bond between them. No harm will result from speaking of meaning as a relation between terms provided we are not betrayed by this mode of expression into hypostatizing the relation. The relational theory of meaning has, however, a dangerous tendency to affiliate itself with a realistic theory of subsistent entities. The meaning-relation, if it be divorced from mind, can only be regarded as a logical or neutral entity; for it is clearly *not* physical. In terms of the relational theory, the conceptual situation would be described as follows: the concept and its *object*, a universal, are joined by the *meaning-relation*, also a universal. The intentional theory offers a greatly simplified account of conceptual knowledge: the concept is essentially and inherently symbolic or meaningful; and though it has no literal object, yet it has objectivity in the referential sense.

It is necessary at this point to introduce a further complication in the description of the symbolic function of the concept. Conceptual knowledge involves what I shall hereafter refer

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to as multiple intent or multiple symbolism. The concept as we described it above is an existentially unique and unrepeatable mental occurrence; the *same* concept cannot be shared by two different minds, nor can the absolutely identical concept recur in the "same" mind. This is, of course, not to deny that numerically distinct concepts may have the same meaning and thus to all intents and purposes be the same concept or more accurately be the concept *of* the same thing. My present concept of "chair" and the one which I entertained yesterday are numerically distinct and qualitatively different, yet in some way, the explanation of which I shall undertake later, each of these concepts suffices for the identification of any given chair as a chair and not a table or desk. In similar fashion the concept which I have of chair and the concept possessed by my neighbour have a common meaning despite the gulf which separates our minds—a meaning which enables us to refer unambiguously to and communicate about chairs and their properties. I have described this situation as a phenomenon of "multiple symbolism" because any one of a number of symbols, in this case concepts, can refer to any one of a number of objects. Thus conceptual cognition is a far more complicated affair than it is usually supposed to be. A multiplicity of concepts, *a, b, c, d*, etc.—existing at different times in the same mind or even in different minds—nevertheless have the same meaning in that *each* symbolizes *any* member of a class of objects *p, q, r, s*, etc. Any member of a "family" of concepts refers to any member of a "family" of objects. The situation is analogous to that which would obtain in a communistic society in which by multiple marriage every male member was regarded as the husband of every female member, and every female member the wife of every male. Such a combination of polyandry and polygamy is the exact analogue of the relation between a set of concepts and its corresponding set of objects. Many different concepts of chair may be framed, yet each of these psychologically diverse concepts indiscriminately denotes any and all chairs. The multiplicity is on the

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side of both concepts and objects. There is a "one-to-many correspondence" between concepts and objects, as also between objects and concepts. The set or "family" of concepts is related to the set of objects in such a way that *each* member of the first set symbolizes *any* member of the second set. The *fact* of multiple symbolism is indisputable, its *explanation* is quite another matter. The question now confronting us is: How is multiple symbolism possible? How can *many* concepts symbolize *one* object and how can *one* concept symbolize *many* objects? Or more accurately, how can any one of many concepts symbolize any one of many objects? Multiple symbolism is the very heart and core of conceptual knowledge, its explanation should clarify many of the obscurities of conceptual knowledge and thereby contribute to the solution of the perennial problem of universals. Traditional nominalism and conceptualism have been defective mainly because of their apparent inability to explain how one name or concept can represent a class of particulars, a defect which has driven many into the camp of the realists.

Multiple symbolism depends upon and is partially analysable into simple or direct symbolism. By simple or non-multiple symbolism is meant the ability of a single, unitary symbol, say a percept, to represent a unitary object. In this type of symbolism there is a "one-to-one" instead of a "one-to-many" correspondence between symbol and symbolized. The psychological basis of non-multiple symbolism has already been analysed in the discussion of "intent". It is by virtue of "intent" that a unitary symbol denotes its object. My percept intends, and in that sense symbolizes, a perceived object, one extra-mental object symbolizes another such object, because the mind projects its own intent into the first object. This fact of "intent" is to be accepted as an ultimate and inexplicable trait of consciousness. The psychological principle of intent is sufficient to account for symbolism of the simple or rudimentary variety, but a supplementary psychological principle is requisite in complex symbolism.

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The psychological principle which must be introduced to account for multiple symbolism is the elementary law of recognition: an object once apprehended by a mind is recognized on its reappearance, provided, of course, the mind has retained an impression of the object. Depending as it does on the mind's power to retain an impression of the object, recognition is a mnemonic phenomenon, but it is much more than this. Mere retention is not recognition, although of course without retention there could be no recognition. The *modus operandi* of recognition need not concern us here. We accept the synthesis of recognition as, for our present purposes, an ultimate and irreducible psychic fact—just as we have hitherto accepted intent—and proceed at once to utilize it in the explanation of the concept's multiplicity of reference. Recognition is among the most rudimentary of the mind's functions. It is biologically indispensable; a complex organism could not successfully adapt itself to its environment without this capacity for recognition. It is like all rudimentary functions well exemplified in child-behaviour. Even a very young child gives evidence of recognizing a familiar object. If his toy is taken from him and is subsequently returned, there can be no doubt of his joy of recognition when it reappears. The two presentations, different as they are in superficial respects, are sufficiently alike to be identified. Moreover, a new toy similar to the original will produce the same glow of recognition, for the child is unable to discriminate between his particular toy and other toys of the same type. Nevertheless he has attained a concept, nebulous and inarticulate, but none the less genuine. Further discrimination, aided by the acquisition of speech, will serve to clarify and further specify the concept, but the germ of the concept is found in the first faint glimmer of recognition.

There are few psychological principles more universal in their scope and application than the principle of recognition. The principle is operative in the formation of *all* concepts, ranging from the ordinary class-concepts of common sense to

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the most exalted concepts of philosophy, the categories. A few examples will emphasize the rôle of recognition in the formation of conceptions. Consider first the concept of the visual quality, red. Two or more patches of the same shade of red are so recognized; likewise several reds of differing shades. Upon these recognitions depends the meaning of the concept "red". The more generalized concept of "colour" depends upon the recognition of similarities between red and the other members of the spectral series. By a continuation of the same process, the mind readily ascends to the concept of "quality". Now quality, representing the most highly generalized concept along this particular line of advance, is a category or categorical concept.

One can trace out a parallel conceptual series which begins not with a simple sense-quality but with organizations of sense-qualities, so-called sensible objects. A certain organization of sense-qualities is called a rose. The characteristic rose-pattern is repeated in the successive appearances of an individual rose as also in different roses. The concept "rose" is a symbol for this structural pattern; the sense-qualities may vary, but so long as the essential pattern is preserved the complex remains a rose. In similar fashion an individual mind or personality is a structure or configuration of mental attributes and functions. I discover such a constant configuration within myself; I recognize myself or have a concept of myself. By various involved constructions I can form a concept of other conscious selves and even of pure selfhood. By a further effort of generalization I can attain the concept of substantiality or individuation, the terminal concept along this line of advance, and therefore a category. In all these cases, the multiple application of the concept depends upon the mind's recognition of qualitative and structural similarities between the several items to which the concept refers.

The foregoing analysis of the conceptual situation has provided an answer, albeit tentative and provisional, to the question: "In what sense does the concept have an object?"

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The concept is *not* objective in the sense of having a universal as its literal object. It *is*, however, objective in so far as it means or intends a multiplicity of particulars, qualitatively or structurally similar. If this definition of objectivity be adopted, then evidently all concepts are objective, in so far as they intend or point to objects beyond themselves—even though these objectives are sometimes supposititious and hypothetical. The fictitious concept “nothingness” is objective in precisely the same way as the veridical concept of a class of existent things. Conceptualism with its redefinition of the objectivity of the concept is a genuine alternative to realism with its abstract universals and nominalism which is unable to transcend the unmitigated particularity of the concept.

CHAPTER VIII

Categorical Knowledge

THE philosophical categories have been invested by traditional philosophy with a peculiar dignity and authority. They were set apart by Aristotle from the general run of concepts and they continued during the Middle Ages to occupy a position of pre-eminence among universals. During the early modern period there was little discussion of the categories *as such*, but they were restored to their exalted position by Kant, and Hegel's system is the most exaggerated historical example of a categorical philosophy. Now while it would be absurd to minimize the significance of the categories, since no metaphysical inquiry can proceed without employing concepts like substance, existence, possibility, and negation, yet the extreme deference and respect with which the categories have been treated by many philosophers has tended to shield them from the critical scrutiny to which all philosophical conceptions must submit. The glorification of the categories with their consequent isolation from the ordinary concepts of common sense and science explains in part the barrenness of the logical theory of the categories. The theory of the categories in traditional logic was a thing apart, which was rarely brought into fruitful relation with other branches of logical inquiry. The true nature of the categories and their relations to one another and to other concepts are disclosed only if they are brought down from their exalted position and forced to mingle on terms of equality with the ordinary run of concepts. The categories, after the overthrow of the aristocracy of universals, are beginning to assume their proper places in a democracy of concepts.

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The traditional exaltation of the categories is in terms of a realism of universals; the categories are universals and as such belong to a logical realm superior to the existential order of events in space and time. Furthermore, the categories are at the very top of the hierarchy of universals; they not only qualify for admission to the higher order of being, the realm of universals, but they occupy the dominating position within that realm. A category may be defined in realistic terms as *an ultimate and irreducible universal, a universal which can neither be resolved into nor subsumed under a higher universal.* The realistic definition of category tends to remove the categories from the existential world and to destroy their commerce with other conceptions of common sense, science, and philosophy. The only way to bring the categories down to earth is to repudiate realism and to embrace some form of nominalism or conceptualism. The crudity of the older forms of nominalism and conceptualism rendered them unequal to the exacting requirements of a philosophical theory of the categories, but present-day conceptualism, availing itself of the results of psychological and epistemological analysis, is in a position to do justice by the categories on the plane of factuality.

The theory of concepts outlined in the last chapter sought to take account of conceptual objectivity without resorting to the extremity of a realism of universals. I shall first briefly summarize that account of the nature and function of the concept in general and then seek to assimilate the categories to a conceptual scheme constructed in terms of it.

Conceptual knowledge designates the apprehension of objects other than particular concrete individuals. We may, if we choose, adhere to the terminology of realism and call all such objects universals—provided we do not ascribe to such universals an unique subsistent status. Universals, according to this usage, would embrace the *referential* objects of our abstract and conceptual thought. Such objects, although not real in any ontologic sense, are epistemically meaningful and

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significant. The conceptual knowledge of "universals" will then be set over against the knowledge of "particulars" gained by perception and its derivatives, perceptual memory and imagination, and by introspective self-knowledge and the perception of other selves. These latter forms of knowledge, even in their illusory and hallucinatory forms, at least profess to be conversant with particular existents. In perceptual knowledge, I apprehend some particular sense object, a table, a book, a tree, or a building; the percept means or intends a single concrete object. There is supposedly a simple one-one relation between the percepts and the perceived objects. Similarly in memory, when I recall the face of an absent friend, an event of my childhood, or the interior of an adjacent room, my memory image intends or refers to a single remembered object. The object of memory or of historical knowledge no longer exists as I now retrospectively envision it, yet there is the characteristic one-to-one correspondence between the present memory and its past object. In imagination, the imagined object may never have existed and yet it is thought of as an unique particular of the existential sort. And, finally, conscious selves and their contents are thought of as existential particulars, although very different in nature from perceptual objects. But when we attain the level of conceptual knowledge all this is changed; the conceptual object or universal is no longer thought of as a single concrete object in the existential order. It is conceived either as a pattern or type which is repeated with variations in different particulars, or perhaps as a universal essence which pervades the particulars which embody it. The apprehension of even the simplest of concepts, say, "chair" or "tree", involves a cognitive situation of greater complexity than that involved in perception, imagination, memory, or introspection. The concept "intends" not a single object but a multiplicity of objects, and thus the one-one relation of perception and its immediate derivatives is replaced by the one-many relation of conception. The principle according to which the "many" are selected is

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ordinarily a qualitative or a structural resemblance, but the selection may be governed by any other principle which convenience dictates. The generic concept with its multiple representation is transformed into a conceptual universal by a process of unification. The conceptual universal refers not only to the collection of individuals which constitute the class, but also to the unitary character which supposedly pervades all members of the class. The essential unity of a class may have no ontological status over and above the resembling qualities or repeated structural patterns in the several members of the class, yet this does not prevent its being thought of or intended by the concept. Thus, while disbelieving in essences, we may acknowledge that the notion of essential unity is part of the meaning of a concept. The concepts of whiteness, triangularity, justice, and the like are meaningful, even though these essences have no reality apart from white objects, triangles, and individual just acts. So remarkable are the mind's powers of conceptualization that it can by elaborate processes of abstraction, generalization, and fictionalization attain to the concepts of number, infinity, zero, nothingness, possibility, and the like. The remainder of the present chapter will be largely devoted to an account of the genesis and meaning of the basal concepts of knowledge, the philosophical categories.

A category is a concept in the sense in which concept has just been defined. Like any other generic concept it refers to the totality of items embraced under the concept. Thus the category of existence is the concept of existent things; the category of quality is the class of all qualities. The category is related referentially to its instances, precisely as the ordinary class-concept "man" is related to Smith, Brown, Jones, and other individual men. But, it may be objected, "If a category *is* a concept, what distinguishes a category from a non-categorial concept?" "What is the place of the categories in the scheme of concepts?" I shall contend that a categorial

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concept differs from any other generic concept solely in its comprehensiveness and generality. *A category, conceptually defined, is then a concept of high generality and wide application.* J

While a categorial concept refers primarily to the multiple instances of the concept, each category also envisages a unitary character which supposedly pervades the many exemplifications of the categories. The general tendency of the mind to postulate an identical substrate underlying all members of a class operates with especial strength in the case of the categories. Thus the category of existence is conceived to be a peculiar mode of being which spreads itself "over" or "under" all existent things. The category of quality is an unique determination of all actual qualities. Now even though one may be disposed to repudiate on metaphysical grounds the theory of pervasive categorial essences, it cannot be denied that the categories are actually thought of in this way. The category of existence is attained by substantializing and hypostatizing that unique and undefinable mode of being which resides in every existent thing. Thus the category of existence is the class-concept "existent", *plus* the notion of an identical character resident in all existents.

The categories since they differ only in generality from other class-concepts are arrived at by progressive generalization of concepts. A category is a terminus reached in the subsumption of a lower under a higher class-concept. The only "deduction" which can be given for a category is an exposition of how the category may be reached by ascending from sensuous and perceptual particulars, through the intermediate class-concepts, to the category in question. This procedure is more properly called a "derivation" than a "deduction"; its purpose is not, like the Kantian "deduction of the categories", the validation of the categories, but merely the explication of their meaning by reference to experience. Every category then is empirical in that while it may not actually be exemplified in experience, it can always be traced

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back to sources in experience. Whatever meaning it has accrues to it directly or indirectly from the sensuously or the introspectively given.

The objection will perhaps be raised that the class-concept theory of categories works very well so long as it is restricted to categories like existence and quality of which there are actual instances, but it breaks down when one seeks to extend it to categories like negation and possibility which do not admit of exemplification. There *are* existents and there *are* qualities, but it may reasonably be doubted whether there are real non-existents or real possibles. My reply to this objection is that even in the case of exemplified categories like existence and quality, the meaning of the concepts derives from existents and qualities considered not *as* actual but *as* referred to or intended. The meaning of any concept does not depend upon the actuality of the items referred to, but merely upon their character as referents. Thus negation and possibility may be regarded as concepts which embrace non-entities and possibles as referents. Just how an empirical meaning may be assigned to unexemplified and perhaps unexemplifiable concepts like negation and possibility will be considered when we examine these categories. The eliciting of the categories from experience is thus not always a simple process of abstraction and generalization. A sensuous category like quality is attained by ascending from particular qualia to generic concepts like red, blue, colour, etc., and finally to quality itself as a *summum genus*. But the less sensuous categories like thinghood or possibility are the products of creative and constructional activities of thought in addition to mere abstraction and generalization. Such constructional categories are distinctly pragmatic in their origin and function, having been devised by the human mind to cope more effectively with the experiential order than is possible by abstraction alone. But however far removed the non-sensuous categories may seem to be from the "given" they are not spun out of thin air in utter disregard of the nature of experience, but are

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in every case suggested by experience and derive their meaning from indirect reference to the experientially given

Although experience perhaps *suggests* a certain categorial system, it does not uniquely determine a given set of categories so that it and no other is coercive. Alternative categorial schemes may be devised for the interpretation of experience, just as may alternative geometries or alternative logics, and the choice of a certain scheme in preference to its rivals is dictated solely by its greater success in integrating and organizing the experiential data from which every scheme of categories ultimately departs. A categorial scheme which is adequate at one time may prove weak and ineffectual at a later stage of intellectual inquiry. Indeed, the history of philosophy may be interpreted in one of its most important aspects as the progressive redefinition of fundamental categories of human thought and discourse. No one categorial system possesses an absolute and inherent necessity; rather does each enjoy a temporary and limited capacity for ordering and arranging the body of human knowledge. We have previously noted that all attempts to "deduce" the categories, in the sense of establishing their absolute necessity and authoritativeness, are in the nature of the case unsuccessful. Kant's elaborate and highly ingenious demonstration that the categories are presuppositions of the very possibility of experience and that as a consequence they are *a priori* valid for experience is far from convincing. From the factuality of the categories in experience, their coerciveness and legislative force, even within the domain of experience, cannot be derived. The presuppositional method by which Kant seeks to "deduce" the categories is found when subjected to close scrutiny to be nothing but the familiar method of hypothesis masquerading as demonstrative proof! No more successful is the Hegelian deduction of the categories. Hegel's validation of any given category is accomplished by eliciting it, in accordance with the dialectical method, from earlier categories in the categorial system. The deduction of any given category is found on close

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examination to be spurious, for the distinctive meaning of the new category, instead of being actually elicited from its predecessors, is surreptitiously smuggled in from experience. But even if the entire panel of categories of Hegel's *Logic* were a completely integrated system of categorical meanings, neither the system nor any of its members would thereby be validated. Such a categorical system, comprehensive though it be, could not claim an absolute and inherent validity, for the elaboration of an alternative system of categories partially or entirely exclusive of the Hegelian can always be envisaged. If the Hegelian system of philosophical categories were unique in that no alternative system suggested itself which could not be assimilated to the Hegelian, then this one system would be established, so to speak, by default; but even under these circumstances the one available system would continue to be merely problematic and hypothetical.

Although a scheme of the categories cannot be "deduced" in an absolute and exclusive sense, there are certain *desiderata* of a categorical philosophy by reference to which a given panel of categories may be found preferable to rival schemes. The requirements of a "good" set of categories closely parallel those for a "good" hypothesis. An acceptable scheme of categories must be: (1) *consonant* with the empirical order, that is to say, all the concepts must admit of meaningful application to the experiential world, (2) *coherent* in the sense that the several categories are logically interrelated and the reciprocal relations between the categories are clearly definable and, (3) *comprehensive* in that it contains concepts commensurable with the richness and diversity of experience and knowledge. The most that can be said in favour of any proposed scheme of categories is that it shall be empirically meaningful, logically integrated, and ontologically inclusive. By these canons and these alone are the categorical philosophies of the past to be judged, and when this is undertaken the classical systems of Aristotle, Kant, and Hegel will be found conformable to them to a remarkable degree. The question of the literal truth of

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categories is irrelevant and meaningless. Categories do not admit of strict truth and falsity, but merely of greater or less adequacy to the content of experience. There are powerful and significant categories, like possibility and negation which, though purely fictional, are almost indispensable to the framework of knowledge. Such epistemic categories though they do not admit of empirical exemplification, and could not by any stretch of logic be characterized as "true", have a significant reference to experience by virtue of the fact that they enter into precisely definable relations with ontologic categories like actuality and existence.

The conceptualistic or constructional view of the categories may be summed up in the following formula: *A category is a concept of high generality and wide application fabricated by the mind with direct or indirect reference to the experiential world and employed by the mind in the interpretation of that world.* A detailed analysis of certain major categories will be undertaken in the light of this conceptualistic formula. Emphasis will be placed throughout on the affinities between the various categories, the empirical origin and reference of the categorial concepts and their pragmatic and epistemic functions. The enumeration makes no claim to completeness, since exhaustiveness is in this type of inquiry a meaningless and unattainable ideal; it will, however, be found to contain the more representative categories which have figured prominently in the classical discussions of the categories.

The central task of a categorial philosophy is the exposition of the categories, that is to say, the enumeration of the categories and the analysis of the categorial meanings in relation to one another. There is, unfortunately, no formal principle, such as Kant's correlation between judgment forms and the categories, to guide their enumeration and to insure the completeness of the list. The suggestions of experience itself afford the only clue in the enumeration of the categories and I shall accordingly proceed from one empirically exemplified category to another until the features of experience seem to

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have been exhausted. Besides the patently empirical categories, I shall also consider certain fictional categories, which, though not exemplified in experience, have an indirect reference to experience. There is, of course, no clue to the discovery of the purely pragmatic or fictional categories except the observation of their functioning in actual instances of knowledge. Any enumeration of exemplified and unexemplified categories is in some degree accidental and adventitious, and the very ideal of an exhaustive enumeration of the philosophical categories is delusive.

The categories treated below have been selected from the vast array of concepts which have found their way into the traditional lists, and constitute a representative list of fundamental concepts which are exemplified in experience or may be fruitfully employed in the interpretation of experience. The attempt will be made to determine the meaning of these concepts in relation to one another and to the experiential order. Each category will be "deduced" only in the sense of indicating its direct or indirect reference to the experientially given.

1. *Existence* is perhaps the most pervasive of the exemplified categories; indeed, it may be equated to the concept of "the exemplified" itself. Physical objects, minds, systems of logic, values, and ideals, and even errors and illusions may be said to exist in some sense or other. Contrary to the claim of some of the greatest philosophers of the past that there are compartments of reality beyond and above the existential, reality and existence are in fact coextensive. Despite the fact that it is possible to *conceive* of real but non-existent realms such as Plato's "intelligible world", Leibniz's "world of possibles", Kant's "noumenal objects", Hegel's "Absolute Idea", and Schopenhauer's "World as Will", existence, ontologically considered, exhausts the real. The doctrine of in-existent realities is a metaphysical delusion whose origin and specious plausibility will be discussed in connection with the pseudo-categories of non-existence and possibility.

In spite of the disagreement among philosophers as regards

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the relation between reality and existence, there is almost complete unanimity in their definition of existence or actuality itself. Existence cannot be defined formally since any formal definition of existence is, on account of the very inclusiveness of the concept, necessarily circular. Thus the definition of existence as "the totality of all that *is*" or as "everything which is the case" is manifestly circular. To say that existence is "the property shared by all existents", or that it is "that unique mode of being by virtue of which the predicate 'exists' may be asserted of anything", are purely verbal and nominal definitions. The meaning of the term can be conveyed only by "pointing", that is to say, by exhibiting instances of existence. Any immediate experience of a conscious content, such as a sensation, an emotion, an act of will, any event in the physical world, whether perceived or inferred from what is perceived, is an instance of existence. In short, existence is the categorial concept which refers to any item in the nexus of actual events.

Existence has sometimes been defined in spatio-temporal terms, an existent being anything which has a determinate locus in the spatio-temporal continuum. The spatio-temporal definition of existence encounters a difficulty when applied to so-called "mental events" which, though certainly existent, are presumably not spatial in the same sense as are perceptual objects. But even this difficulty is perhaps not insurmountable, since mental events are at least temporal, and thus the realm of existence is co-extensive with the total spatio-temporal continuum. Samuel Alexander has made a valiant effort to preserve the spatio-temporal character of existence by the complete identification of mental space-time with physical space-time.¹ Rather than resort to this drastic expedient, it is perhaps better to restrict spatiality to perceptual and physical existents, retaining temporality as the common denominator between the physical and the psychical. Mental and physical events are datable in the same temporal scheme and thus temporality and existence are equivalent or at least co-extensive terms.

¹ *Space, Time, and Deity*, vol 1, pp 93-102.

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The ontologic pervasiveness of the category of existence obviously does not preclude the possibility of thinking *about* fictitious, imaginary, and non-existent objects. The existence of an idea and the idea of existence are two very different things. Ideas of imaginary objects belong to the realm of existence, even when the objects intended by them do not. The confusion between the existential status of the vehicle of cognition and the actual existence of the referent of the cognition is responsible for the paradox of non-existence. The concept of non-being seems to be infected with contradiction since to entertain the concept is to confer upon it a kind of being. But since the existential and referential aspects of the concept are quite distinct, the paradox of non-being is resolved.

The concept of existence refers denotatively to the many and diverse existents which constitute the actual world. Existence is a concept of indefinite extent in that it refers not only to the collection of actually observed existents, but to all observable or inferable existents belonging to the same nexus of events. Impossible as it is to define the inherent nature of existence, we are in possession of a rule for the recognition of existents and their assimilation to the concept of existence. Any object of cognition which can be brought within the concrete network of acknowledged existents is itself an existent. The existential claims of any imagined object of cognition are tested by an appeal either direct or indirect to the inspective and introspective data of experience. The existential predicate applies to immediate data of experience, sense qualia, feelings, emotions, and the like, and to other cognitive objects inferable from such data in accordance with the canons of historical and scientific evidence. A cognitive object which has no inferential connection with the experientially given may be presumed not to exist. The truth of a proposition of existence or of non-existence is determinable solely by direct or indirect appeal to immediate experience, and it can never be established by a purely logical or ontological

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argument. By the experiential test alone I am assured that certain things, my own thoughts, the house in which I live, the furniture and books I use, the people who surround me exist, while certain other objects of thought, the subjects of myth and fable, the characters and situations of a novel, the ideal constructs of mathematics, logic, and metaphysics are non-existent. ✓

2. *Non-existence*.—The concept of non-existence cannot, as can the concept of existence, be defined by reference to actual instances, since it does not in the nature of the case have concrete instances. Non-existence is an unexemplified and unexemplifiable concept. The belief in the actuality of the non-existent is a delusion which could only have imposed itself on one who was determined at all costs to impute literal objectivity to every concept or verbal symbol. The ontological postulate, namely, the assertion that for every referential symbol there is a correspondent actual object, commits one to the theory of negative entities, for certainly the mind does conceive of fictional or non-existent entities and of pure non-existence as the class of such entities. Nowhere does the postulate of objectivity with its identification of the cognitive and the ontologic objects lead to more absurd consequences than when applied to the non-existent.

The concepts of non-existence in general and of the several sub-species of non-existence, even though incapable of being directly exemplified in experience, are derivatives from experience and possess an indirect and pragmatically significant reference to experience. The concept of negativity is framed by the human imagination operating on the materials of experience. The imaginative processes whereby the concept of non-existence is generated are complex and elusive, but it is by them alone that the empirical meaning of the concept can be elucidated and this elucidation of the category of non-existence constitutes the only "deduction" of which the category admits.

The concept of the non-existent has its basis in fiction and

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falsehood. Were it not for the capacity of the human imagination to form new combinations of the ingredients of our experience, the concept of non-existence would never have arisen. When an imaginatively constructed complex of experiential ingredients fails to be empirically exemplified, it is labelled a fiction and its object is said to be non-existent. With the gradual accumulation of imaginative fictions, the concept of pure non-existence is evolved. The mind can conjure up an indefinite variety of fictional objects, square circles, hippogriffs, soul-substances, universals, etc., which are non-existent, and pure non-existence is the class name for such objects thought of, but never actually encountered, in the real world. The ability of the mind to refer to or intend imaginative and fictional objects is the basis of the concept of non-being. Non-existence may accordingly be described as the class or rather pseudo-class of all fictional objects achieved by the extension of the class notion from actualities to fictions, from the exemplified to the unexemplified. The category of non-existence is simply the concept of all fictional objects.

The genesis of the concept of non-existence may be accounted for in yet another way. Non-existence may be viewed as the negative of existence, which bears the same relation to existence as any negative concept bears to the corresponding positive concept. The negatives of most concepts are exemplified; for example, the concept of not-blue is exemplified by all the other colours except blue. If, however, the original concept is existence, its negative non-existence cannot be exemplified. Non-existence, although by definition unexemplifiable, is a meaningful concept because it is resolvable into the two exemplifiable concepts, "existence" and "negation". Non-existence is elicited from the existential by a fictional existention of existential concepts, but it has no direct application to the existential. Thus the paradox of negation is resolved. The concept of non-existence is meaningless if the meaningful be defined in the narrow and restricted sense of the exemplifiable, for instances of non-

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existence cannot in the very nature of the case be exhibited, and yet the concept is meaningful in the wider sense of being reducible to concepts which are themselves exemplified.

Why, it may be asked, if existence exhausts the real, did it ever occur to the human mind to frame the concept of non-existence? This question has already been answered in part, at least, in our account of the genesis of the concept of non-existence. The fertility of the human imagination enables it to conjure up an almost limitless variety of fictional objects. Furthermore, I have just pointed out how negation, which is in the first instance applicable only within the existential order, gives rise by a natural extension and generalization to the concept of non-existence. The real source of the notion of non-existence is to be found in the phenomenon of error. Were it not for human fallibility, the concept of non-existence might never have arisen, except as a speculative possibility. Negative propositions of existence express the falsity of attempted affirmations of existence. An affirmative proposition of existence, having been embraced through illusion, hallucination or faulty inference, is subsequently discarded—a fact which is expressed by the negative proposition of existence. The negative proposition “Such and such does not exist” is symbolically equivalent to “It is false that such and such does exist”. A negative proposition is thus a secondary proposition, that is to say, it is a proposition asserting the falsity of an entertained or believed affirmative proposition. A negative proposition does not have a direct reference to the factual order, but refers to it indirectly in that it falsifies a certain affirmative factual proposition. It is evident that if the human mind were constitutionally infallible, the need for negative propositions would never have been felt, since the whole truth about the existential order—and there is no truth, properly speaking, except existential truth—can be stated in affirmative propositions alone.

The truth of existential propositions, affirmative, and negative alike, can be established only empirically. There is no

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valid ontological argument for the existence of anything, nor can anything be proven non-existent unless the very conception of it involves self-contradiction. The empirical verification of a negative proposition of existence encounters a peculiar difficulty in that it requires ideally an exhaustive survey of the whole realm of existence. The unrestricted negative proposition, "S does not exist", could be propounded with assurance only after an examination of all existents in order to make certain that "S" is not among them. Even a restricted negative existential proposition, for example the statement that a certain book is missing from my library, can be verified only by an examination of all the books on my shelves to make sure that the book in question is not among them. Only Omniscience Himself, contemplating the whole of existence, could propound a negative proposition with absolute assurance, but Omniscience would have no need of negative propositions since they are a consequence of human fallibility. A negative proposition of existence is a proposition about the totality of existents and its truth at best highly problematic.

The category of non-existence, since it is unexemplified and has its root in human fallibility, is a pseudo-category in contrast to the genuine category of existence from which it is derived. As the concept of existence refers to the totality of actual existents, the concept of non-existence is supposed to embrace the whole realm of imaginative and fictitious objects. In terms of the distinction between ontologic and epistemic, the concept of existence may be described as having ontologic as well as epistemic significance, whereas non-existence has epistemic significance only. Non-existence, then, is a highly convenient category for the fallible human mind, but it does not actually characterize the real world as do existence and the other ontologic categories.

3. *Possibility* is the next category to be considered, for it too is closely allied with existence. As non-existence is the negation of existence, so possibility is always the possibility of existence. To say that such and such is possible is tantamount

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to saying that it may exist. Possibility seems to enjoy a greater *prima facie* claim to ontologic significance than does bare non-existence. Of the philosophers of the main historical tradition Plato, Aristotle, and Leibniz insisted that possibility is in some sense constitutive of the real. Leibniz is the most enthusiastic exponent of the doctrine of real possibles. The Leibnizian world of possibility is real—real, moreover, in a more profound sense than is the actual or existential world. Leibniz's theory of the priority of the possible to the actual is an inversion of the relation which, in fact, obtains between these two concepts. Existence is the primary concept possessing direct ontological reference, whereas possibility is derivative from existence and has only epistemic significance.

The genesis of the concept of non-existence has been traced to human susceptibility to error; the concept of possibility is similarly generated by ignorance or the partiality of human knowledge. In the words of Spinoza: ". . . a thing cannot be called contingent (or possible) unless with reference to a deficiency of our knowledge."¹ The statement that "A certain event or situation A is possible" means that the available evidence is not decisive as between the propositions "A exists" and "A does not exist". A problematic proposition thus hovers with uncertainty between a proposition of existence and a proposition of non-existence. Possibility is not like existence, a determination of the subject of which it is predicated, but is the character of uncertainty resident in the correspondent existential proposition. Language permits the use of "possible" as the logical predicate of a proposition, just as it permits "existent" to serve as a predicate, but there is even less justification for the former than for the latter usage. The same form of expression is employed, whether we assert that "A is possible", "A is existent", or "A is red", but it is really appropriate only for propositions of the qualitative type. The casting of propositions of possibility into the predicative mould distorts their essential meaning. The state-

¹ *Ethics*, Prop. xxxiii, note 1 Elwes translation, vol II, p 71

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ment "A is possible" does not predicate possibility of A, for possibility is not, like redness or loudness or heaviness, an exemplifiable quality, but is rather the linguistic equivalent of the complex proposition "'A exists' is possibly true". Propositions of possibility resemble negative propositions in that they are secondary, that is to say, though not directly conversant with the world of fact, they ascribe truth-falsity value to other factual propositions. There are no *possible entities* corresponding to problematic propositions any more than there are *negative entities* correlative to negative propositions, and yet problematic and negative propositions have a factual meaning and reference. Moreover, the truth or falsity of problematic and negative propositions is determinable by factual considerations alone.

The concept of possibility is no more capable of exemplification than is negativity. A non-entity, if exemplified, would be *ipso facto* a positive existent; a possible which could be exemplified would by virtue of its exemplification cease to be possible and become an actual existent. But just as we have construed non-existence as a pseudo-class embracing purely fictitious "objects", hypostatized by the mind, so possibility may be considered a concept of indefinite extension whose instances are imaginatively projected possibilities. The realm of possibles would then be peopled by all things, the existence or non-existence of which is either unascertained or unascertainable. The category of possibility is a concept which designates all "objects" thought of or imagined, which conform to certain of the conditions of existence, but for the existence or non-existence of which the evidence is either incomplete or inconclusive.

Possibility is a concept of great range and variability. The conditions of existence by which the possibility or impossibility of a contemplated object are judged vary from the extreme minimal condition, namely freedom from contradiction, to the most elaborately specified conditions of existence. What is judged possible at one time and with reference

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to the then available knowledge may in the light of a fuller knowledge be proved impossible. If the imaginatively projected object has nothing to commend it except freedom from contradiction, then it is said to be *logically possible*, but if in addition it is conformable to the requirements of the spatio-temporal order and to the categorial features which characterize the spatio-temporal order, then it is said to be *factually possible*. The former is the Leibnizian definition of possibility in terms of the principle of contradiction alone; the latter is a modification of the Kantian conception of possibility as conformity to the *a priori* conditions of experience, *viz.*, space, time, and the categories. Factual possibility may be further restricted by introducing the scientific laws and generalizations which are applicable to the several domains of fact. By such specifications there emerge the concepts of physical, psychological, or biological possibility and impossibility. The difference between logical and the several forms of factual possibility is not, as is commonly supposed, an absolute difference; logical consistency is an empirical prerequisite of existence not differing in kind from conformity to the spatio-temporal structure of the world or to scientific law.

4. *Impossibility*.—The category of impossibility is definable in terms of the categories of negativity (2 above) and possibility (3 above). The impossible is simply the non-possible, and since possibility relates always to existence, the impossible is a species of non-existence. An object of thought remains possible just so long as we know of nothing incompatible with its existence, but as soon as it is shown to violate one of the conditions of existence, say the principle of contradiction or a basic law of science, it becomes impossible. Impossibility is thus virtually synonymous with non-existence, a non-existent thing is called impossible if it is at one time entertained as possible, but is subsequently discovered to violate some indispensable condition of existence. There are two ways of establishing the inexistence of a thing: the one is a direct enumerative survey of a realm of existence in order

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to show that it fails to exhibit the thing in question; the other is the discovery that the thing is so conceived as to conflict with one or more essential requirements of existence. When the first method is employed the thing whose existence is disproved is said to be simply non-existent, while in the other case it is called impossible. Ontologically, however, there is no difference between the propositions: "A is impossible" and "A is non-existent"; they differ solely in the context in which each is asserted and the method by which the conclusion is reached in the two cases. The impossibility of an object is asserted in the context of an earlier belief in its possibility, and is ordinarily arrived at indirectly or by inference as when the thing is found to involve a latent contradiction or to conflict with the properties of space and time or with the laws of nature; simple non-existence is asserted in the context of an earlier belief in the thing's existence—a belief which direct experience now falsifies.

There is a distinction between two types of impossibility correlative to the distinction between the logically and the factually possible. A thing is *logically* impossible if it can be shown to violate the primary condition of existence, namely, consistency; it is *factually*, that is to say physically or psychologically, impossible if it is incompatible with the laws and generalizations of science. Logical and factual impossibility shade gradually into one another, for the laws of logic, when they are not definitional or postulational, are merely factual.

Impossibility is, like possibility and negativity, an epistemic category in that it owes its genesis to the uncertainties and limitations of our knowledge, but does not characterize the real order. Impossibility is obviously an unexemplifiable category. Actual instances of impossibles are as absurd as actual instances of negatives; impossibility is, in fact, a subcategory or negativity. The exemplification of impossibility is itself inherently impossible. An Omniscient Mind surveying the sum-total of all that is would nowhere discover possi-

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bilities, impossibilities, or negatives except to be sure as concepts in finite and fallible minds. Ideally the system of true knowledge could be cast in affirmative, assertoric propositions dispensing entirely with problematic and negative propositions. The problematic and negative propositions of our human knowledge and discourse would appear in such a system of truth solely as propositions *about* the errors, uncertainties, and vicissitudes of finite human minds in their quest for knowledge and truth.

5. Necessity.—While there are many types of necessity, natural or causal necessity, logical necessity, moral, and perhaps aesthetic necessity, I shall here be concerned solely with ontological or existential necessity. Necessity so conceived is a category of modality closely allied with—indeed definable in terms of—existence and non-existence, possibility, and impossibility. The precise relation between necessity and the other modal categories is embodied in the definition: *That is necessary, the non-existence of which is impossible.* The most familiar application of this conception of necessity is the ontological argument for God's existence, which seeks to demonstrate the necessity of the existence of God from the impossibility, that is to say, the contradictoriness, of His non-existence. The ontological argument is, as Gaunilo's *reductio ad absurdum* indicates, a generalized proof of existence which is not restricted to God. *If* the argument is cogent for *ens perfectissimum*, is it not equally valid for a perfect island, for the devil conceived as a being absolutely malevolent and, in general, for a superlative instance of any type? The ontological argument should be generalized so as to free it from reference to perfection, since there are concepts other than perfection from which existence might plausibly be elicited. The underlying logic of the ontological argument becomes evident only when considered as a generalized and unrestricted proof of existence. I shall, therefore, raise the general question as to whether there are any entities which necessarily exist because their non-existence is impossible. In other

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words, is intrinsic necessity of existence an exemplified or an unexemplified category?

The most direct attack upon the problem of necessary existence would, I suppose, involve examination of actual existents to see if any can claim intrinsic necessity. Select any existent at random, and give as complete a description of its properties as you will, you will find that none of these empirical properties will be found to conflict in any way with the denial of the existence of the thing in question. A survey of the existential world reveals that any actual existents can without contradiction be conceived as non-existent. Furthermore, there is no contradiction involved in conceiving as non-existent the totality of all that actually is. *If* anything exists then the existential totality certainly does, but, as we have seen, existence may without contradiction be denied of any individual thing. Since the non-existence of anything or of everything is logically possible, nothing is intrinsically necessary.

The ontological argument, which we have hitherto approached from the existential side, may also be approached conceptually. Having shown that no actual existent is intrinsically necessary, it may next be asked whether there is any abstract, conceptual character from which existence necessarily follows. This is the more appropriate approach to the problem since the ontological argument in its traditional formulations proceeded from the concept or essence of the thing to its existence, rather than from some actual existent to its inherent necessity. Kant, however, contended that the cosmological and teleological arguments are the ontological argument in disguise, and that both these arguments *do* proceed from an actual existent to the necessity of its existence. As Kant recognized, the *direction* of the argument is immaterial; what really matters in the ontological argument is the telescoping of existence and necessity. The validity of the ontological argument hinges upon whether there is any concept or conceptual character from which real existence may be deduced.

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If there is such a character all instances of it will exist of necessity and the ontological argument will have been vindicated. Perfection is the character most commonly proposed as the ontologically fertile concept and, for the purposes of the ontological argument, perfection is defined as the possession of the maximum number of predicates. Now existence is one of the attributes or predicates of perfection. Therefore God, the absolutely perfect being, as well as things perfect in their own kind, necessarily exist. One need not quarrel with the definition of perfection presupposed by this argument, for definition—apart from considerations of intellectual convenience and conformity to general usage—is arbitrary, and the proponent of the ontological argument has a right to define his terms as he sees fit. Neither ought the objection that existence is not a predicate be taken too seriously. Kant is unquestionably right in distinguishing between qualities which may appropriately serve as predicates of propositions and basic modalities like existence which are not properly predicates, even though language permits them to function as such. This objection to the ontological argument may be forestalled by a more liberal interpretation of the concept of perfection so as to include within the meaning of perfection basic categorial determinations as well as qualitative predicates. There still remains, however, the most serious fallacy of the ontological argument from perfection to existence, namely, that it confuses conceptual existence with real existence. The concept of perfection may be so defined that to *conceive* a thing as perfect is also to *conceive* it as existent. But this does not demonstrate its *real* existence for conceptual existence and real existence are separated by an unbridgeable chasm. The concept of perfection may imply the concept of existence and yet both remain unexemplified concepts. Since the crux of the ontological argument is the passage from conceptual existence to real existence, the argument in its purity could dispense with the concept of perfection and proceed from the concept of existence to actual existence. Existence necessarily exists, for

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a non-existent existence is a self-contradictory notion. When the argument is thus stripped to its barest essentials the inherent fallaciousness of its logic becomes evident, and it could never have deceived anyone had not its essential logic been concealed by the interpolation of the concept of perfection. The argument affirms that existence is of necessity an exemplified concept, for existence is the very meaning of the concept, but a concept may have a determinate meaning or reference without having ontologic significance and the concept of existence is no exception. Conceptual reference to existence is no guarantee of the presence of real existence. To be sure existence is an exemplified concept, but its exemplification is not derivable solely from the meaning of the concept. There is perhaps still another confusion of thought responsible for the plausibility of the ontological argument from the concept of existence to real existence. The concept of existence is itself an existent, and thus to entertain the concept of existence while denying that there are real existents appears absurd. The confusion here is between existence as a conceptual meaning and the concept of existence as an existential fact. The existential status of the concept of existence is extraneous to the meaning of the concept. It is simply a fact on a par with any other existential facts and will not serve to establish the inherent necessity of the concept of existence. The concept of existence may without any contradiction be entirely unexemplified. Since existence possesses no intrinsic necessity the category of necessity in the sense of necessary existence is a pseudo-category.

Existence alone of all the modal categories has direct ontological significance. There are no real possibles; existence is never intrinsically necessary and non-existence is purely fictitious; there is only one mode of being and that is existence itself. All other categories accordingly are either characteristics or relations obtaining within existence. Included among such existential categories are spatiality and temporality, quality, structure, quantity, thinghood, relation, causality, identity and

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difference, similarity and dissimilarity, whole and part, and many others besides. I have chosen from this list certain typical categories to further illustrate the methods of conceptual analysis.

6. *Quality*.—The category of quality “communicates” with the category of existence: all qualities are existents, though there may be some question as to whether all existents are qualitative. Whether or not quality is all-pervasive, it is certainly a concept of wide application, and thus deserves to be called a category. Quality is the terminal concept attained by advancing from particular *qualia*. The progress is from particular reds to the concept of red (or redness), from particular blue to the concept of blue, and thence to the colour. The concept of colour combined with the concepts of odour, hardness, hotness, etc., similarly derived from the data of the other senses yields sense-quality. By further conceptual generalization the concept of pure quality is reached, and since no further progress is possible along this line of advance short of existence itself, quality is properly designated a category.

7. *Relation* is a category comparable to quality, but reached at the termination of a different line of advance. Indeed, the dichotomy between a categorial determination, *e.g.* quality, and a categorial relation, *e.g.* resemblance, is one of cardinal importance in the scheme of categories. Every category is either a concept of some intrinsic determination of existence or the concept of a relation obtaining between existents.

Relation conforms to the principal desideratum of a category, namely, pervasiveness, since relations of some sort obtain between any two or more existents selected at random. Any existent *a* is related to any existent *b*, if only by the relation of resemblance, for the existence which they share is itself a point of resemblance. If it be urged that existential resemblance alone is trivial, it is always possible to find other more specific relations. Any two existents *a* and *b* are related as parts of the spatio-temporal system; moreover, lines of physical influence—though perhaps indirect and circuitous—can always

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be traced between them. The domain of the category of relation is therefore co-extensive with the domain of the category of existence. Relation is an existential category in the sense that no relations are found apart from concrete existential situations. Nevertheless, the further question must be raised as to whether relations are themselves existents. The theory of subsistent relations has been widely held, and it must be admitted that the temptation is strong to entify relations and to suppose that an identical relation obtains between different sets of terms. Thus, when two terms a and b are related in a certain way, and two other terms c and d are similarly related, it seems natural to suppose that an identical relation r obtains between the two sets of terms. But the truth of the matter is that r merely symbolizes the relational similarity between the two situations ar_1b and cr_2d , where r_1 and r_2 are similar relations. The concept of a relation, like the concept of a quality or of a thing, depends upon a similarity between a number of things, qualities, and relations respectively. The conceptual or referential identity, resting on similarity, does not justify the positing of a real or substantial identity pervading the instances of the concept.

The process of conceptual generalization whereby the category of relation is achieved closely parallels that which was outlined above for quality. Let $s_1, s_2, s_3 \dots$ represent particular instances of similarity, s_1 being the similarity between two blue patches, s_2 the similarity between two musical notes, s_3 the similarity between two hard surfaces, etc. The concept of similarity, s , is simply the class of similarities $s_1, s_2, s_3 \dots$. In like fashion, $c_1, c_2, c_3 \dots$, particular instances of spatial contiguity yield c , the concept of the relation of contiguity, and $t_1, t_2, t_3 \dots$, instances of totality or the whole-part relation yield t , the concept of totality. Now R , relation as such, is the concept embracing s, c, t , etc. Relation is the terminal concept reaching along this line of advance and similarity, contiguity, totality, etc., are sub-categories under the category of relation.

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The foregoing account of the genesis of the concept of relation is an over-simplification, since relations, unlike qualities and things, are non-isolable. A relation is not an element in the relational situation on a par with the terms related, but is a structural feature pervading the entire relational situation. The statement, "The ash-tray is on the table", is a description of a complex spatial situation in which "the ash-tray" and "the table" are discriminable items capable of existing apart from one another, but the relation of "aboveness", which refers to the relative positions of "the ash-tray" and "the table" defined by reference to the up-down directional sense of the system, cannot be localized and isolated in the same fashion. The verbal form of the statement suggests that two entities called terms are bound together by a third entity called a relation, but this form of statement, convenient as it is for purposes of communication and logical analysis, utterly misrepresents the character of the relational situation described by it. Instead of saying that a relation holds *between* its terms, we ought rather to say that terms, or rather things and qualities, are embedded *in* relational situations. The analysis of the relational situation into terms *and* relations results from the most common of linguistic fallacies, namely, the illicit transference of the structure of discourse to the things with which discourse is conversant. The account just given of the genesis of the concept of relation remains substantially unchanged despite the repudiation of isolated and detached relations. The similarity upon which the concept of a relation depends is not between two atomic relations but between two relational situations. The concepts of resemblance, aboveness, contiguity, etc., refer to the characteristic structural pattern of the several subvarieties of the relational situation, while the category of relation *per se* is the concept of the structure common to all relational situations.

The recognition that relations are non-isolable and non-detachable eliminates a source of many errors and confusions in the theory of relations. The issue regarding the internality

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or externality of relations is a consequence of the entity theory of relations, and with the rejection of the latter this much-debated issue entirely dissolves. On the assumption that a relation is an isolable and localizable entity, one is confronted with the question as to whether it is a *tertium quid* joining the two terms or whether it is reducible to an intrinsic determination of the relata, but if a relation is a structural organization pervading the entire relational situation of which the relata are merely distinguishable components the issue is meaningless. The relation is neither outside the terms nor in the terms; rather are the terms at least temporarily in the total relational situation. Thus the theory of internality of relations is vitiated by the very entification of relations usually associated with the rival theory of externality of relations.

8. *Resemblance* is a sub-category under relation which plays an important rôle in any nominalistic or conceptualistic theory of cognition. Resemblance is allied with both relation and quality, being a relation which holds only between qualities. In the strict and narrow sense there is no resemblance except qualitative. To be sure, "things" are said to resemble one another when they have the same colour, produce the same sound, or taste alike, but, strictly speaking, such resemblance is between the qualities of the things and is extended only by courtesy to the things having the qualities. There is yet another sense in which resemblance and similarity are often applied to things. For example, the moon is likened to a penny, or two biological specimens are said to be similar, or two profiles are said to have the same contour. While this is a perfectly legitimate usage, it should not be allowed to conceal the radical difference between *qualitative* and *structural* resemblance—the former pertaining to qualities, the latter to shape, arrangement, and organization. The two forms of resemblance are utterly different in their categorial nature and are by no means coincidental: thus two things may be structurally similar yet qualitatively different, *e.g.* a penny and the moon, or they may be qualitatively similar yet structurally different,

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e.g. a penny and a bronze statue. Language in employing resemblance and similarity to denote both the qualitative and the structural relation is seriously misleading, and in the present section resemblance will be restricted to its qualitative meaning.

Qualitative resemblance has been regarded with some suspicion by many philosophers because of its alleged subjectivity. All resemblance, it is argued, is discoverable by a mental act of comparison, so that even though the qualities compared were objective—which is indeed doubtful—the resemblance between them is certainly constituted by the comparing mind. This argument is an example of a typical idealistic fallacy, the fallacy of supposing that the mental or subjective character of the act of knowledge prejudices the status of the object known. The two qualities may “really” resemble one another. The fact that the mind’s act of comparison is necessary to reveal the resemblance between two qualities does not preclude their really resembling one another. Resemblance, according to the view of the nature of relations suggested above, is not an entity existing apart from the resembling qualities, but is an integral aspect of the total situation involved in the act of qualitative comparison. Resemblance is a relation which emerges in the complex situation consisting of two or more qualities present to a comparing mind which are recognized by that mind to be qualitatively similar. While the resemblance between the qualities compared does not antedate the act of comparison and is in part at least constituted by that act, yet resemblance is not “subjective” in any sense which prejudices the validity and coerciveness of judgments of comparison. Although the qualities and their resemblance are inspectively accessible to a single observer, the results of such observation and comparison so closely parallel the results of other observers confronted with the same stimuli as to yield scientifically objective knowledge. Questions concerning the locus and ontological status of resemblance—even supposing such ques-

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tions are capable of decision—do not greatly matter. The only consideration of epistemological significance is that resemblance is a coercive relation discoverable by an act of comparison. Judgments concerning the degree of resemblance of qualities are as exact as any inspective judgments with the possible exception of judgments of temporal coincidence and spatial conjunction. That red and pink are more closely resembling than pink and green is a judgment of the highest phenomenological certainty. Indeed the empirical evidence for scientific conclusions of the highest importance often rests upon “intuitive” comparisons of this sort. To reject all judgments of qualitative comparison on the ground of their alleged subjectivity would deprive knowledge of vast and important spheres of empirical data.

9. *Qualitative difference, dissimilarity, or contrast* is the negative or complementary category of qualitative resemblance. Resemblance and difference, though opposites, are inseparable, and both may be revealed directly by the same act of inspection and comparison. So intimately conjoined are resemblance and difference that it may plausibly be questioned whether they are really *two* relations. Since a relation is not an atomic and isolable entity, but the structure of a complex relational situation, the relational situation which in one of its aspects is qualitative resemblance may in another aspect be qualitative difference. Accordingly resemblance and difference are not two relations, but two aspects of one and the same relational situation. There can be no resemblance without some degree of difference, and no difference except between resembling qualities. Moreover, the degree of resemblance always varies inversely with the degree of difference: the greater the resemblance the less the difference and vice versa. Resemblance and difference coexist in somewhat the same manner as do the correlative spatial relations “above” and “below”, “to the right of” and “to the left of”, “greater than” and “less than”. When *a* is above *b* and *b* below *a*, there are not two separate relations, but one relation having two senses. Similarly, when

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a resembles *b*—and at the same time differs from *b*—there is only one relation which might appropriately be called qualitative distance or qualitative interval between *a* and *b*. Thus the qualitative distance between adjacent colours of the spectrum is small, the interval between red and violet is great. The concepts of resemblance and difference may thus be subsumed under a single category of qualitative distance.

10. *Qualitative identity* is the limiting case of qualitative resemblance reached when one or both of two resembling qualities vary until the qualitative difference between them entirely vanishes. Two or more qualities then become *qualitatively* identical if, while retaining their *numerical* distinctness, the qualitative distance between them is reduced to zero. The inability of the comparing mind to discern any difference between two or more qualia indicates at least at the phenomenal level the absence of any difference whatsoever. The “matching” of colours is a familiar illustration of the process of comparison by which qualitative equality is discovered; colours which exactly match are not merely similar, they are qualitatively identical. When a practised observer reports that he is on close scrutiny unable to detect any contrast between two qualitative data, we may conclude that there exists for him no qualitative difference. Judgments of qualitative identity possess an even greater reliability and exactitude than ordinary judgments of resemblance. An “inspector’s” report of the absence of qualitative difference is deserving of greater credence than his estimate of the degree of resemblance between qualities or his estimate of the relative qualitative distances between two pairs of qualities. Accordingly, wherever possible, knowledge should be tested and verified by an appeal to qualitative coincidences rather than qualitative similarities, and it is significant in this connection that in scientific measurements the inspective identification of qualities, *e.g.* spectral colours, colours of chemical solutions, is considered almost as reliable as spatial and temporal coincidences.

11. The category of *strict* or *numerical identity* is not to be

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confused with qualitative identity. Qualitative identity is a resemblance between qualities so complete as to render them indistinguishable; its opposite is qualitative difference or contrast, which is, however, not incompatible with a degree of resemblance; numerical identity, on the other hand, is the absolute identity of a thing with itself, and its opposite is numerical distinctness or duality. So diverse are the two forms of identity that they cannot co-exist. Qualitative identity can exist only between terms which are numerically distinct, two colour patches are the identical shade of blue only in so far as they are two and not one.

Numerical identity is commonly defined as the relation of a thing with itself. Obviously relation is employed in this definition in a *Pickwickian* sense, for, strictly speaking, a thing cannot be related to itself—it simply *is* itself. Absolute identity, in so far as it is supposed to hold between a thing and itself, might more properly be defined as the absence of a relation. If there is in fact no such relation as absolute or numerical identity, "How", it may be asked, "do we come to conceive numerical identity, and how can statements of the form 'A is identical with B' be both significant and true?" The answer is that any significant proposition of identity, although affirmative in form, is negative in import: "A is identical with B" is equivalent to "It is false that A and B are distinct", which in turn may be contracted into "A is not B". Like other negative propositions it has its source in human error and fallibility. A proposition of identity is initially uttered to controvert an erroneous belief in the distinctness of two things. Distinctness is a genuine ontologic relation between things; identity is a pseudo-relation. The mind, by virtue of its tendency to hypostatize relations, believes in the persistence of some relation even after the distinctness has been obliterated. Suppose, for example, that A and B are two distinct things which subsequently fuse into a third thing C. What is more natural than to suppose that A and B somehow preserve their integrity in C, and that the relation of identity has now been

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substituted for the original diversity? Such a supposition is, however, pure fiction, attributable to the hypostatizing tendency of the mind. In other words, a proposition of the type "A is identical with B", though ostensibly a statement about two *objects* A and B and the relation of identity is in fact an assertion about A and B considered as symbols. "A is identical with B" means that a single entity referred to by the symbol A *is* also the entity referred to by the symbol B. The meaningfulness of the proposition of identity accordingly depends upon the ability of a single individual to be referred to by more than one symbol.¹ A proposition of identity is a statement of symbolic equivalence or referential identity; it asserts that two or more symbols refer to one and the same thing. What is generally called absolute or numerical identity may, from this point of view, be appropriately re-named symbolic or referential identity. This does not mean that propositions of identity are devoid of real meaning and content. The symbols, which are discovered to be referentially the same, initially referred to different properties or sets of properties of the thing—otherwise there would have been no occasion in the first place for the use of two or more distinct symbols. Propositions of identity may be very significant and illuminating—even startling—in their revelations. It is often of paramount importance to learn that what we have hitherto known by the name A is something we have also known by the name B. Thus to label propositions of identity verbal and symbolic is not thereby to disparage them or deny their real cognitive significance.

An examination of propositions of identity as they occur in actual thought and discourse shows that they often arise because a thing known partially and in certain of its aspects receives a symbolic designation, and subsequently the same

¹ The situation involved in symbolic identification is the reverse of the "multiple symbolism" or "multiple designation" employed in the last chapter to account for the generic concept. The generic unity is a single symbol referring to a multiplicity of individuals: symbolic identity is a single individual referred to by a multiplicity of symbols.

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individual is known in other aspects by some other symbolic designation. The identification occurs when, in the light of a more complete knowledge, the two sets of aspects are found to belong to the same individual. Suppose the aspects *a*, *b*, and *c* are known first and receive the designation A, and then *d*, *e*, and *f*, encountered in quite another context, receive the designation B. Now when a fuller knowledge reveals that *a*, *b*, *c*, *d*, *e*, and *f* constitute a single system or individual, the discovery is signalized by the proposition "A is B". Typical judgments of identification are those conversant with persons. Suppose, for example, I have become casually acquainted with a Mr. A and subsequently learn that he is Mr. A, the famous novelist. The statement "Mr. A is the author of such-and-such novels" is no mere equating of two terms, it is the discovery of the personal or individual identity of two apparently distinct persons. Mr. A, my casual acquaintance, possesses a certain set of personality traits; Mr. A, the distinguished author, is associated in my mind with quite a different set of traits. The assertion of the symbolic equivalence of Mr. A of my acquaintance and Mr. A the distinguished author requires the unification of all these traits into the conception of a single personality. Many historical propositions are identificatory in this sense: the theory of the Baconian authorship of the plays of Shakespeare takes the form of a proposition of identity, asserting, as it does, the symbolic or referential equivalent of "Bacon" and "the author of the plays attributed to Shakespeare". Such an identification, supposing it to be justified by the evidence, would be no mere tautology, but would constitute a significant addition to our knowledge. All solutions to murder or crime mysteries, whether in fiction or criminology, assume the form of identity-propositions. "A is the murderer of B" asserts the referential identity of "A" and the "murderer of B", and is far from being an insignificant verbal tautology. A startling example of the synthetic or revelatory character of a proposition of identification is Thackeray's story of the priest, quoted by Bosanquet to illustrate

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the rôle of identity in inference. "An old abbé, talking among a party of intimate friends, happened to say, 'A priest has strange experiences; why, ladies, my first penitent was a murderer!' Upon this, the principal nobleman of the neighbourhood enters the room. 'Ah, Abbé, here you are; do you know, ladies, I was the Abbé's first penitent, and I promise you my confession astonished him!'"¹

A strictly tautological proposition of the type "A is A" is a limiting case—one is tempted to say degenerate form—of the significant proposition of identity. Whereas the proposition of identity "A is B" equates two symbols for the same object, the proposition "A is A" indicates that the symbol A may be repeated and that it always denotes the same object whenever employed. It is thus a rule governing the use of symbols, and not, like ordinary propositions of identity, possessive of truth-value. Repetitiousness—or rather repeatability—is an exceedingly important property of a symbol—a property so essential that it is merely taken for granted and its importance lost sight of. Were it not possible to repeat a symbol and yet have it refer to the identical object, all thought and discourse would be rendered impossible. The logical law of identity is nothing but the postulate of symbolic repetition—the postulate that the same symbol may in different contexts have the same referent.

The outcome of the foregoing analysis is that absolute or self-identity is a symbolic relation which does not possess ultimate ontologic significance. Identity, conceived as a relation between a thing and itself, is a pseudo-relation. Identification is an operation performed on symbols to express either the discovery that two symbols refer to the same object, whether actual or merely intended, or recognition of the repeated use of the same symbol to denote a given object. The relation obtains not between a thing and itself, but between diverse symbols for the same thing. The attribution of identity to the object itself is a result of the common con-

¹ B. Bosanquet, *The Essentials of Logic*, p. 140.

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fusion between the properties of symbols and of the things symbolized by them. In the objective order of existence there are no absolute identicals, and hence the category of identity possesses no ontologic but only epistemic significance.

12. *Numerical distinctness or non-identity* is, as I have suggested above, more deeply rooted in the real than is numerical identity. "Otherness" is a relation obtaining between any two existents selected at random. If A and B are two such existents, then the proposition "A is not B" (where "not" is equivalent to "other than") is always true. The use of the negative proposition to express otherness is a curious perversity of language, for difference or distinctness is a positive relation between existent things and contains no ingredient of pure negation. It would certainly be more appropriate if the negative judgment were reserved for genuine denials—such as are made conformable to the category of pure negation or non-existence—and propositions of otherness were uniformly cast in an affirmative mould. The arbitrariness of language in employing the same negative form of statement to express both genuine negation and the affirmation of otherness has misled many philosophers and logicians, among them the idealistic logicians, who seek to reduce all negation to otherness.

"Otherness" or diversity is a positive relation, and it is identity which partakes of the character of negation. Numerical identity has been characterized as the *absence* of relation, and although this formula is not an adequate theory of identity, it does, as has already been suggested, contain an essential truth. The negative ingredient in a judgment of identity is obvious: the statement "A is identical with B" corrects the erroneously entertained impression that A and B are designations of two separate and distinct entities; it is equivalent to the statement "A and B are not numerically distinct", which is equivalent to "It is false that A and B are numerically distinct". Just as all truth about the existential order is at least ideally stateable without recourse to negative propositions, so it would be theoretically possible to dispense entirely

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with propositions of identity in the description of the existential order. Numerical duality or duplicity is a determination of the real, but numerical identity as the denial of duality possesses only a symbolic significance.

13. Structure or organization is a relational category of great philosophical significance. Structure may be defined as the arrangement or organization of parts within an integrated whole. The category is pervasive, since there is nothing actual or existent which does not belong to a structured whole. The continuum of experience is in every part patterned or configurational. There is an infinite variety of levels and types of organization, ranging from mere collections of discrete and relatively independent items, such as a pile of bricks, to the most complex and highly integrated organization—a living organism, a human personality, a work of architecture, or a philosophical system. The simplest organization, the whole of parts, is a collection of items such that the alteration or removal of any item does not drastically alter the other items of the collection. To be sure, in any actual collection, however loose its organization, the alteration or elimination of any item or introduction of a new item from the outside is certain to make some difference to the other members of the collection. Since the difference is often negligible, it requires little imagination to *conceive* of a collection of absolutely independent items. The whole of parts is not to be confused with the class: the former is a concrete whole the parts of which are in actual juxtaposition, *e.g.* the pile of bricks; the latter is not an actual but merely a referential collection, it is a multiplicity of items perhaps widely separated in space and time which are symbolized by a single concept, *e.g.* the class of all bricks. A whole of parts is a real collection, a class only an ideal collection. The higher types of organization are themselves wholes of parts, but the parts are united not only by juxtaposition but by other integrating relations. Wholes in which the inter-relation of parts is close and in which any alterations, additions, and subtractions of items significantly modify other

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parts and the whole itself, are commonly called organic wholes—living organisms, minds, societies are typical examples of organic wholes.

The existential order is an intricate network of structural wholes which include, overlap, and interpenetrate one another. Wholes include parts, which are in turn wholes inclusive of subordinate parts. A remarkable example of such a structure is the self-representative system, a whole containing parts within parts which are structurally similar to the whole and to one another. The philosophical imagination has always been fascinated by the conception of the world as a series of patterns within patterns, a conception which has played a dominant rôle in the systems of Plato, Bruno, Leibniz, and Hegel. The view of the world as a system of structures within structures, although it has led some of its adherents to absurd and fantastic conclusions, is grounded in experience and admits of precise, analytical description.

Structure, which we have defined as the arrangement or organization of the parts of a whole, is basically—though not exclusively—spatial. The purest instances of structure are embodied in geometrical patterns and arrangements. The structure of a crystal, a living organism, or a building obviously consists of the spatial ordering and arrangement of parts, and the structure as embodied in a human personality, a society, a thought-system is an extension of spatial structure, or at least is conceived after analogy with it. In a qualitative world devoid of spatiality it is difficult to see how structure could be of a very great significance.

Structure is a repeatable property of things, that is to say, numerically distinct things may nevertheless possess the same or similar structures. Two crystals, two living organisms, or two buildings are structurally similar in so far as they exemplify the same geometrical pattern. This structural similarity is a purely geometrical property and differs *toto caelo* from qualitative similarity: things may be qualitatively different yet structurally alike (for example, crystals of the same shape

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but of different colour), or they may be qualitatively the same yet structurally different (for example, crystals of the same colour but differing in shape). There is, however, an interesting parallel between the qualitative and the structural categories. Closely paralleling the distinction which has been drawn between qualitative similarity and qualitative identity, is the distinction between structural similarity and structural identity. The purely geometrical prototype of this structural distinction is that between similar and congruent figures: thus two circles differing in diameter are geometrically similar, while two circles of the same diameter are geometrically identical.

14. *Individuality* or *individual identity*, which is the lineal descendant of the traditional category of substance, is definable in terms of structural similarity: *an individual is a structured whole which develops continuously and preserves in its successive stages structural and qualitative similarity*. In defining individuality as the continuity of a structural pattern, it is not requisite that an individual possess throughout its life history a single structural pattern, but only that from moment to moment it preserve a similarity of structural pattern. A living organism is a typical individual—during its development it may pass through stages as dissimilar as an egg, a caterpillar, and a butterfly, yet it is possible to trace its life history continuously and to demonstrate structural similarity between proximate and successive stages. The concept of individuality is by no means restricted to the biological level, but applies equally to inorganic objects, and in this application it may be called thinghood. A thing is any patterned whole, carved out of the world of perceptual objects, which changes continuously and at the same time preserves from moment to moment its structural identity. Any natural or manufactured object possesses this sort of thinghood.

Individuality has precisely the same meaning whether applied to inanimate things, to living organisms, or to conscious selves, but doubtless the highest manifestation of indi-

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viduality is the conscious self. Individuality at the level of selfhood is personality: a person is a conscious and at times a self-conscious individual. Personal identity, like the identity of things, is constituted by continuity and similarity. I am a person to the extent that my inner life unfolds continuously, and the pattern of my mental life is repeated from moment to moment. My self of ten years ago may be as different qualitatively and structurally from my self of the present as my present self is from some other quite distinct personality of my acquaintance, and yet I appropriate to myself the one and not the other because I can link it up continuously with my present self. Successive stages in my life history are structurally similar, even though cumulative changes over a long period may drastically alter the pattern of my mental life. The final test of my continued existence as a self is my ability to reconstruct a continuous and consecutive autobiography.

In reviewing the foregoing categories, they are found to arrange themselves into two groups: (1) the ontologic categories, like existence, quality, similarity, numerical difference, which correspond to exemplifiable determinations and relations of the phenomenally real; and (2) the epistemic categories, like possibility, negation, and numerical identity, which, although not exemplified or exemplifiable in experience, are derivable from the exemplifiable features of experience by symbolic constructions. Both the realistic and the pragmatic categories are meaningful and legitimate, and the existence of these two diverse types of categorial concepts need produce no confusion in philosophy provided their difference is fully appreciated. One of the great sources of error in traditional metaphysics is the failure to differentiate between the two groups of categories with the consequence that such categories as possibility and negation were considered pervasive and exemplifiable features of the real, on a par with existence.

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THE familiar antitheses between knowledge of principles and knowledge of facts, between formal and material knowledge, between *a priori* and *a posteriori* knowledge, between necessary and contingent truths, though they do not exactly coincide, all express a fundamental cleavage within the domain of knowledge of which epistemological theory must take account. The foregoing chapters have been concerned principally with the factual, material, *a posteriori* and contingent aspects of knowledge and I propose in the present chapter to investigate whether, and if so, in what sense, the system of knowledge contains formal, *a priori* ingredients. The question stated more specifically is: "What is the rôle of principles in formal systems and to what extent, if at all, do principles possess *a priori* truth?" *A principle is tentatively defined, for the purposes of the present discussion, as a non-factual proposition, basic to a system of propositions either because it serves as a first premise of the system or as a rule conformable to which the system is elaborated.* A proposition in order to qualify as a principle in accordance with this definition must be, (1) *non-derivative*, and (2) *non-factual*, and I shall examine in turn these two distinctive traits of principles.

(1) *Principles are non-derivative propositions.*—The derivative or non-derivative character of a proposition is not as traditional rationalism supposed an intrinsic property of the proposition revealed by scrutiny of its meaning, but is a relational feature determinable solely by the position which it actually occupies in a formal system of propositions. If a proposition is the first premise of a logically articulated system,

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it is a primitive proposition *with respect to that particular system*, but this does not prevent its being a derivative proposition with respect to some other system or systems. Furthermore, a proposition may be both primitive and non-primitive with respect to the "same" system when the same set of propositions admits of being systematized in more than one way. A proposition which functions as first premise or "axiom" in one systematic concatenation may become a conclusion or theorem of another systematization of the same propositions. The construction of systems admits of a two-fold plurality—a plurality of systems and a plurality within a given system. In the words of Professor C. I. Lewis: "The plurality of equally cogent systems . . . dispel[s] the notion of the indispensability in what is logically prior."¹ Modern logic has completely undermined the traditional ideal of a single formal system consisting of propositions whose ordering is inflexible and unalterable. The logical aristocracy of the older rationalism which assigned to every proposition its inherent and inalienable niche in the system of knowledge has been superseded by a democracy of propositions which—submitting to the exigencies of system-building—elevates now one and now another proposition to a position of pre-eminence. The conception of a principle as *primum inter pares* has replaced the conception of the principle as an absolute logical *prius*.

Principles in the sense of non-derivative propositions are of two somewhat divergent types: (i) *first premises*, such as the axioms or postulates of a geometry which are actual constituents of the formal system, and (ii) *basic assumptions* and rules of operation, such as the principles of inference which govern the construction of the system though not actually included in the system itself. Principles of the first type may properly be described as *constitutive* because they actually belong to the formal system; principles of the second type are *regulative* because they afford rules to which the system

¹ *Mind and the World Order*, p. 204.

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conforms.¹ Whether the distinction between premise and assumption, between constitutive and regulative principle is ultimately defensible is open to dispute. There are at least three possible views. (a) One extreme view is that the distinction is absolute and that certain propositions are inherently suited to be assumptions mediating a formal system though they are incapable of inclusion in the system as its premises. (b) At the other extreme is the view that all propositions which are really relevant to a system admit of inclusion as constitutive elements of the system and that consequently the totality of propositions explicitly or implicitly contained in the system exhaust its meaning and logical content and thus the distinction between principle and premise, between regulative and constitutive propositions is abolished entirely. (c) Between these extremes is the compromise view that the distinction between premise and principle, although legitimate and important, is relative and depends upon the exigencies of system-building. This theory, adopting a functional conception of the structure of a formal system, maintains that propositions, instead of having a "natural" place in a system, fall into a place determined by the architectural demands of the system in question. The relation existing between presuppositions and premises of a formal system may be clarified by a chemical analogy. The principles of inference have been supposed by certain logicians to underlie a formal system without belonging to it, much as a catalytic agent was assumed by the older chemistry to facilitate a chemical process without itself participating in the process. A principle of inference thus performs the function of a logical catalyst. With the advance of the chemistry of catalytic agents, it has become increasingly clear that a catalytic agent cannot expedite a process without itself being a reagent of the process—a reagent which before the termination of the

¹ The present distinction between constitutive and regulative principles obviously does not coincide with the Kantian, Kant's distinction pertains to the difference of function of the two types of principles in experience rather than in formal systems Cf *Critique of Pure Reason*, A 236-7, B 295-6.

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process is restored to its original condition so that it may be recovered and used again and again. The analogy of the catalytic agent to the principles of inference, if the analogy is sound, suggests that logical principles are actual though tacit premises of a formal system, and that the distinction between premise and principle is not ultimate. The principles of inference are tacitly acknowledged rules common to all formal, propositional systems. Such principles function as virtual premises of a system even though they are not explicitly included in the system itself. Thus the distinction between constitutive and regulative principles of a system is to be construed as a legitimate though not an absolute distinction, and logical principles, like the law of contradiction and the *dictum de omni et nullo*, though they ordinarily function as rules of a system, may be incorporated as actual premises of formal systems. The question as to whether any given principle is constitutive or regulative is decidable solely by whether or not it actually functions as a premise or as a tacit assumption of a specified system. The distinction between the two types of principles—like the distinction between derivative and non-derivative propositions—is thus a purely functional and relative, rather than an intrinsic and absolute, distinction, but is not on this account logically unimportant.

(2) *Principles are non-factual statements.*—A principle is neither a description of a concrete factual situation nor an inductive generalization from a number of concrete descriptions. The highest generalizations of science are commonly designated principles—as when we refer to the principles of physics or the principles of psychology—but principles are in the present chapter restricted to formal or non-factual propositions. A factual generalization, no matter how broad and inclusive, does not qualify as a principle in the strict logical sense. Factual statements about the existential order are, to be sure, assimilable to formal systems—as when physical laws are expressed in geometrical language—but the principles of the system are not thereby transformed into factual proposi-

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tions. Formal systems are devised by the mind to enable it to integrate and systematize its knowledge of the factual order, but the formal systems, their basic premises and governing rules are not statements about the world of facts.

The untenability of a purely factual interpretation of principles is clearly illustrated by the principle of contradiction itself. The principle of contradiction demands that within a given formal system the propositions p and p' shall not be asserted and this desideratum of formal consistency is, by a natural but illicit extension of its meaning, construed as an assertion about the factual order—the assertion, namely, that an existent thing cannot both possess and not possess a determinate property. The principle of contradiction, expressed in the quasi-factual proposition: “A thing cannot both have and not have a certain quality”, professes to be a statement concerning the *de facto* incompatibility of contradictory properties in existent things, but such incompatibility is not an empirically discoverable property of the factual order. The law of contradiction when stated factually is a principle about the truth of propositions masquerading as a statement about the compatibility of empirical qualities. The statement: “A thing cannot possess contradictory qualities”, is equivalent to the statement “Contradictory propositions cannot be simultaneously true”. But even the statement that a proposition and its contradictory cannot both be true, although preferable to the statement in terms of the contradictory properties of things, also possesses, by virtue of its employment of the concept “truth”, an ontological reference. The formulation: “There are no factual situations in which the propositions p and p' are both true”, although not directly conversant with facts, is a proposition *about* propositions and their truth-value, and thus has the semblance of the inductive discovery that in no actual truth-situations are p and p' simultaneously assertable. The incompatibility of p and p' which prevents their being truthfully asserted in any given situation is, however, not a uniform, empirical property of truth-situations, but arises

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from the initial definition of p and p' as contradictories. Contradictories are by definition propositions which cannot be simultaneously true; the statement that p and p' can never be simultaneously true follows from the symbolic equivalence of " p is true" and " p' is false". The principle of contradiction may be stated in such a way as to exclude all factual reference and to emphasize its regulative function, namely, "Contradictory propositions should not be included in a single formal system"; in this form it makes no ontologic commitments whatsoever, but merely formulates and prescribes a rule for the construction of formal propositional systems.

Criteria of truth also illustrate the inadequacy of a factual and inductive interpretation of principles. The correspondence principle, though it cannot claim to be *the* criterion, is, at least, *a* criterion of truth. Indeed, it is the criterion which most serious takes account of factuality as a determinant of truth. The correspondence principle, construed as a factual generalization, would assert that "All propositions which correspond in some specified way with the real are true". The full specification of the nature of this correspondence is a problem for the theory of truth with which we need not be concerned here. Now if the attempt is made to validate inductively the criterion of truth as correspondence by correlating instances of the truth of propositions with instances of the property of correspondence to the real, obviously a criterion of truth is presupposed in the very enumeration of supposed instances of truth. But if this criterion is itself correspondence, the procedure is circular, whereas if some other criterion is introduced, we are faced with the question of *its* validity. In neither case is the criterion of truth as correspondence validated. Furthermore, the inductive correlation of criteria of truth with one another would not constitute a validation of the correlated criteria. Even if it could be shown by inductive procedure that the decision on the question of the truth or falsity of specific propositions was the same whether the criterion C_1 or the criterion C_2 were adopted, this

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fact would, of course, authenticate neither of the two criteria. For example, it may be the case that all instances of "truth as correspondence with the real" are instances of "truth as coherence with a wider system", and conversely that all instances of coherence are instances of correspondence, but such a *de facto* correlation of criteria, though it would be an interesting and important epistemological discovery, would validate neither the correspondence nor the coherence theory of truth. The logical difficulties involved in the attempted verification of a criterion of truth suggest that the principle of correspondence or any other purported criterion is nothing but an arbitrary definition of truth incapable of inductive validation. The conclusion is inescapable—paradoxical as it is—that a criterion of truth is not itself a truth.

Similar difficulties are encountered in any attempt to establish an ethical principle by generalization from experience. Consider, for example, the hedonistic principle: "All actions productive of pleasure are good". The inductive correlation of "pleasure producing actions" with "good actions" is possible only if we are already in possession of some criterion of "good actions" by reference to which they may be recognized and identified as such. Now if this criterion is "productiveness of pleasure" obviously the subsequent generalization is question-begging. If, on the other hand, the instances of "good actions" are selected in accordance with some other moral criterion, say self-realization, the inductive procedure has accomplished only the correlation of the two moral criteria of pleasure-production and self-realization, but has not succeeded in validating either of them. Nor is the failure of inductive ethics surprising in view of the normative or prescriptive character of ethical principles. Empirical generalization cannot be expected to yield prescriptive certainty. An empirical validation of ethical principles encounters exactly the same difficulties as are involved in the inductive validation of the logical principles of inference and the epistemological criteria of truth.

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Principles are primitive propositions whose validity or truth—if indeed they may be said to possess these properties at all—is non-factual in character. In seeking an explanation of the validity of principles, one encounters the traditional problem of the *a priori*: “Are there any principles possessing *a priori* truth and, if so, whence do they derive their apriority?” The remainder of the chapter will be concerned with the four principal theories of the *a priori*:

(1) The theory of the intrinsic *a priori*: *a priori* principles are self-evident truths.

(2) The method of affirmation by attempted denial: *a priori* principles are truths presupposed by their own attempted denial.

(3) The presuppositional theory: *a priori* principles are truths presupposed by the possibility of experience.

(4) The modern postulational theory: *a priori* principles are rules or postulates posited by the mind in its elaboration of formal systems.

(1) The theory that principles are self-evident truths is rationalism in its purest form and, while it has perhaps few serious defenders at the present time, it deserves serious consideration simply because it is one of the theoretically possible accounts of the *a priori* and also because the other theories of the *a priori*, having first been proposed as alternatives to the intrinsic theory, betray its influence. According to the theory of self-evident principles, the truth of at least some propositions is disclosed to the reason by direct intellectual inspection. The theory of self-evidence in its purest form asserts that truth is literally a quality of certain propositions—or of the meanings expressed by such propositions—and that it is discernible by rational insight much as red is a quality of the rose discernible by sense-inspection. The reason may directly intuit the unique quality of trueness in a propositional meaning or it may intuit other qualities, such as clarity and distinctness of ideas, which are infallible clues to the truth of the proposition in question. But whether the quality of truth is directly intuited or its

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presence is indicated by other qualities which invariably accompany it, truth is an intrinsic determination of the propositions which possess it, and thus the theory of self-evident principles is properly described as the intrinsic theory of the *a priori*.

The intrinsic theory of the *a priori* received its definitive expression in the theory of "innate ideas" of seventeenth-century rationalism. Descartes and his followers believed that the reason was capable of intuitive insights which confer truth upon the propositions expressing those insights and that such propositions are the underlying principles of the system of rational knowledge. The historical rationalists slurred over the distinction between the "idea" and the proposition expressive of it. Descartes' use of "idea" is notoriously ambiguous; he does not make clear whether the term designates an intuited meaning or the propositional articulation of the meaning or perhaps both of these combined. The careful differentiation between the "clear and distinct idea" and the "true principle" is essential to a proper statement of the theory of self-evident truth; the theory properly understood asserts that the mind intuits a clear and distinct idea, which in itself is neither true nor false, but which verifies the propositional equivalent of the idea. Or to express the same thing in a more modern terminology, the mind by inspection discerns the clarity of a "meaning" which attests the truth of the proposition expressive of the "meaning". The clear and distinct ideas of the classical rationalists are akin to the "meanings" of contemporary discussion, while inspection is a more neutral and less ambiguous substitute for intuition.

The conventional criticism of the intrinsic theory of the *a priori*, namely, that "clarity and distinctness" are purely psychological qualities of ideas, and as such are incapable of conferring truth upon the correlative principles, would seem to be valid. How can subjective criteria guarantee an objective truth? It is not only the subjectivity of the rationalistic criterion of truth which is open to criticism, but even more

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damaging to the theory is its concealed factuality. However much the rationalist may protest that his intuition is a pure intellectual insight into the *essence* of an idea, it is difficult to see how it can altogether avoid the taint of factuality. The qualities of "ideas" inspectively apprehended by the mind which allegedly confer truth upon the corresponding propositions are, after all, *de facto* qualities which seem scarcely capable of verifying *a priori* truth. Inspection or intuition may warrant the factual statement that such and such a meaning or "idea" is characterized by psychological "clarity and distinctness", but it cannot authenticate the truth of the proposition embodying that meaning. Hence the intrinsic *a priori* of clear and distinct ideas is vitiated as much by its factuality as by its subjectivity.

(2) A second method of validation of *a priori* principles is the method of affirmation by attempted denial which contends that propositions whose contradictories are self-refuting are thereby proven true. If proposition *p* is the principle whose validation is desired and if it can be shown that the contradictory of *p*, namely *p'*, is internally self-contradictory, then the original *p* must itself be true. This ingenious logical device for demonstrating first principles was employed by the early rationalists, notably Descartes and Leibniz, in conjunction with the method of self-evidence which it gradually superseded. Thus Descartes accepted the doctrine of intuitive self-certainty and of the *lumen naturalis*, yet in promulgating the *cogito ergo sum* as the first principle of his philosophy, he unquestionably employed the logical device of affirmation by denial. The proposition, "I exist", is true not only on account of an intrinsic self-certainty—which Descartes undoubtedly ascribed to it—but more especially because in every act of doubt or attempted denial of my own existence, I tacitly affirm my existence. The methods of self-evidence and affirmation by attempted denial are not necessarily incompatible since there is no *prima facie* reason why a self-evident proposition should not also admit of being proved by the indirect method. As a

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matter of fact, however, the "I exist" would seem to be the only principle of Descartes' philosophy established by both the direct and indirect methods; other basic principles—for example, the principle of eminent causality by which he demonstrated God's existence as the adequate cause of the idea of God—possess intrinsic self-certainty, but their denial is not self-contradictory.

The method of affirmation by attempted denial is superficially similar to the *reductio ad absurdum* argument which is so useful in mathematical demonstration, but the two methods are really very different. The mathematical *reductio* is far more modest in its pretensions than is the rationalist's method of self-refutation. The mathematical argument seeks to prove not the truth of a proposition but merely that it belongs to a certain implicative system, say the system of Euclidean geometry. It accomplishes this by the indirect method of assuming the contradictory of the proposition which it wishes to prove, and then demonstrating that this contradictory is inconsistent with the initial postulates of the system or their implicates. The rationalistic method of affirmation by attempted denial on the contrary seeks to demonstrate the actual truth of a certain principle by showing that its provisional denial leads to a self-contradiction.

The constructive possibilities of the method of affirmation by attempted denial—if the method proved to be logically sound—would be almost unlimited. From a few basic propositions, which are true because their contradictories are self-refuting, a complete system of rational truth could be demonstrated. Professor E. G. Spaulding, in *The New Rationalism*, ingeniously deduces a complete system of knowledge from a small number of primitive propositions which have been validated by the method of "presupposition by denial"¹—a method which coincides with the procedure here described as "the method of affirmation by attempted denial". The latter designation is, I believe, more exact than Professor Spaulding's,

¹ See *The New Rationalism*, especially pp 132-5.

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since it stresses the tentative character of the initial denial, a feature of the method which Professor Spaulding himself acknowledges. Moreover, it avoids the suggestion that the attempted denial *presupposes* the thesis to be proved when as a matter of fact the relation between the attempted denial and the affirmation is one of logical *entailment*. Professor Spaulding also recognizes this feature of the method when he says: "To be presupposed is to be implied."¹ The method of the *New Rationalism* would, if it were logically coercive, effect the immediate realization of the philosopher's perennial ideal of a unified system of demonstrative truth. It is imperative, therefore, that the pretensions of the method be examined with the utmost care to determine whether there are genuinely self-refuting propositions, the truth of whose contradictories is thereby guaranteed.

In answering the question: "Are there self-refuting propositions?" I shall analyse a few propositions which have with the greatest show of plausibility been proposed as self-refuting. The selection of such typically self-refuting propositions is necessarily random and arbitrary, so that even if it could be conclusively shown that *none* of them was actually self-refuting, there would remain the possibility that there are other propositions having this property. However, the examination and elimination of a few of the most typical of allegedly self-refuting propositions may lead to the detection of the general fallacy of the self-refuting procedure. I have selected the following three propositions as being plausibly suicidal:

- (i) "There are no propositions."
- (ii) "There is no truth."
- (iii) "I do not exist."

(i) The statement: "There are no propositions" is held to be a self-refuting statement because it is itself a proposition. The proposition cannot be true because its truth would pre-

¹ See *The New Rationalism*, p. 132.

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clude its utterance. In other words, the truth of the proposition "There are no propositions" implies its own falsity.

The self-refuting character of the proposition: "There are no propositions" affords an indirect proof of its contradictory: "There are propositions." Since it is false that there are no propositions, then it must be true that there are at least some propositions. "There are propositions" accordingly seems to be an indisputable truth capable of being established by the method of affirmation by attempted denial. Similarly, the proposition: "There are negative propositions" seems provable by the parallel argument that its contradictory "There are no negative propositions", being itself a negative proposition, is self-refuting.

The question at once suggests itself: Why is it necessary to resort to an *indirect* proof of the proposition, "There are propositions", since the proposition in question can with equal cogency be proven directly by what may be called "the method of self-affirmation"? The proposition, "There are propositions", seems to be self-proving in so far as the mere entertaining of it is itself a proposition. There are other apparently self-affirming propositions: for example, the proposition "There are affirmative propositions", since it is itself an affirmative proposition. It is surprising that so obvious a device should have escaped the notice of rationalists, and that a thoroughgoing application of the method of self-affirmation has never been attempted. Fichte's initial positing of the ego by the ego is perhaps the closest historical approximation to such a philosophic procedure.

The proposition: "There are no propositions" is a typical self-refuting proposition, and exemplifies the essential logic of self-refutation. Self-refutation depends upon a peculiarity of the self-refuting situation which I shall call "epistemological reflexivity". Every plausibly self-refuting situation is reflexive in that the purported cognition is *about* that which it *is*. Thus the statement, "There are no propositions", both *is* a proposition and is *about* propositions—indeed, it *is* a proposition

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about the proposition which it *is*. The identity of the vehicle and the referential object of a professed cognition gives rise to the semblance of self-refutation. Contrast the statement: "There are no propositions" with the statement: "There are no oysters." The apparently self-refuting character of the former arises from the fact that it is a proposition about propositions; the latter has no semblance of self-refutation for the simple reason that a statement about oysters is not itself an oyster. The contrast between a typically self-refuting and a typically non-self-refuting proposition suggests that self-refutation depends upon an extrinsic and adventitious property of certain propositions. A self-refuting statement is not, strictly speaking, refuted by *itself*—such a supposition is logically preposterous—rather is it a statement refuted by the fact of its own existence. The illusion of *self*-refutation arises because of a failure to discriminate between the *import* of the statement, namely, what the statement is about, and the logical or psychological *factuality* of the statement. In all allegedly self-refuting statements the import of the statement is controverted by the factuality of the statement. The proposition "There are no propositions" contains no internal logical contradiction—indeed, it is possible to entertain this proposition with perfect logical consistency, in spite of the *fact* that the entertaining of it is incompatible with its truth. The self-refuting proposition is refuted not by itself but by a factuality concealed within itself—a factuality which can be discerned only by adopting a standpoint outside the proposition itself. The exponents of the method of self-refutation are thus guilty of an unconscious shift from the logical level of the proposition to that of a secondary proposition about the original proposition. The "intent" of the original proposition is one thing; the "intent" of the secondary proposition about the original is quite another, and the contradiction is between these two "intents".

Thus a proposition established by the method of self-refutation is an ordinary judgment of fact, and its sole peculiarity

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is that the fact which confirms it is provided by the act of its attempted denial. The proposition could as readily be supported by some other fact. Thus the proposition "There are propositions" is as conclusively, if not as dramatically, established by citing the proposition "There are oysters" as by citing its own contradictory. The characteristic feature of a self-refuting proposition is the circumstance that the fact which confutes it is provided by the proposition itself: it is like any other factual statement except that the evidence for its truth is hidden or concealed within itself. An ostensibly self-refuting proposition is thus reducible to a statement of fact, the evidence for the truth of which is the proposition itself considered existentially. The method of self-refutation is guilty of a confusion between the meaning or import of a statement and its psychological factuality and thus the advocate of self-refutation is a victim of a subtle and ingenious form of self-deception.

(11) "There is no truth" is an ostensibly self-refuting proposition which is supposed to afford indirect proof of its contradictory: "There is truth." The argument is embodied in the conventional refutation of absolute scepticism and has become a permanent part of philosophical lore; absolute scepticism or agnosticism is alleged to be self-refuting because the denial of knowledge is itself an item of knowledge. The formulation: "There are no true propositions" will, in the present analysis, be considered the equivalent of: "There is no truth." The substitution of "true propositions" for "truth" is more accurate since scepticism is not a denial of the existence of "truth" in the abstract but of particular truths. It is quite possible to assert particular truths while denying abstract essential truth, and perhaps even to deny particular truths while acknowledging truth as a Platonic essence. The logic of self-refutation as it applies to the proposition: "There are no *true* propositions" is not fundamentally different from that which applies to the proposition: "There are no *propositions*." There is, however, this difference between the two situations:

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the second proposition is falsified by itself, whereas the first is falsified by its truth claim. The denial of truth is not itself a truth as the denial of propositions is a proposition—indeed, the very purpose of the argument is to demonstrate that the denial of truths is necessarily false. There is in this case no conflict between what the proposition is *about* and what the proposition *is*, for it is *about* true propositions without itself being a true proposition. The internal contradiction is between what is *asserted* by the proposition and what the proposition *claims* to be; the proposition asserts that there are no true propositions, and yet it itself professes to be a true proposition. The contradiction in proposition (11) is between the import or “intent” of the proposition, namely, its denial that there are true propositions and its own spurious claim to truth. In short, whereas proposition (1) is refuted by its own factuality, proposition (11) is refuted by its pretensions.

Proposition (11) is more plausibly *self*-refuting than is proposition (1), since the contradiction involved in (11) is *inherent* in the total meaning of the proposition which includes its import and its truth pretensions; whereas the supposed contradiction in (1) is between the meaning of the proposition and the *extraneous* factuality of the same proposition. Nevertheless, since the truth-claim of a proposition is not part of its essential meaning as a proposition, an inconsistency between the truth-claim and the import is not a genuine *self*-contradiction. The proposition: “There is no truth” may be *entertained* without any inconsistency whatsoever, for to entertain a propositional meaning is not necessarily to *assert* the truth of the proposition. No doubt it is psychologically difficult merely to entertain a proposition without giving some degree of assent to it, but there remains an essential difference between the attitudes of entertainment and assertion; it is always possible to cultivate with respect to any proposition an attitude of entertainment without assertion—indeed the cultivation of such an attitude is characteristic of the mathematician, the logician, and the philosopher in contrast to the investigators in

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the several domains of factual truth. A proposition merely entertained is a meaning intended rather than a truth proclaimed, and it is the propositional meaning alone which should be tentatively envisaged in seeking to determine whether any given proposition is self-refuting. Now there is nothing in the meaning of the proposition: "There are no true propositions" which implies that "There are true propositions"—although, of course, to *assert* the proposition: "There is no truth" is a tacit acknowledgment that there is at least this one truth. The assertion of the proposition: "There is no truth" is tantamount to entertaining the two inconsistent propositions: "There is no truth" and "It is true there is no truth", a dual assertion which is, of course, untenable, but not because the proposition: "There is no truth" is inherently self-refuting. The proposition: "There is no truth" is not genuinely self-refuting, and only seems so because of a failure to distinguish between entertainment and assertion; the confusion between the two attitudes is natural, for it is rare in ordinary discourse to entertain propositions without at the same time asserting or denying their truth. Anyone who seriously entertains a proposition usually acknowledges its truth. Nevertheless, for purposes of logic and epistemology, it is necessary to abstract the meaning of a proposition from actual assent to it and to consider truth as something super-added to the meaning of the proposition as such. Accordingly, an assertion of truth is a secondary proposition about an original primary proposition which was merely entertained. The assertion that "There is no truth" is self-refuting in so far as it is regarded as a complex proposition analysable into primary and secondary ingredients which are mutually contradictory. The complex proposition consisting of the primary proposition: "There is no truth" plus the secondary proposition: "It is true there is no truth", is logically inconsistent, but no simple proposition—merely entertained—is self-refuting.

The logic of self-affirming propositions closely parallels

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that of self-refuting propositions, and I shall briefly digress at this point to inquire whether the proposition: "There are true propositions" is validly self-affirming. If the proposition is asserted, the asserter implies his own belief in the existence of at least this one true proposition and is thus committed to the principle: "There are some true propositions." But the question as to whether his belief is correct is still undecided, for the mere entertainment of the propositional meaning: "There are true propositions" certainly does not imply that there are, in fact, true propositions. Hence the method of self-affirmation is as incapable of establishing the truth of the proposition: "There are true propositions" as is the method of self-refutation incapable of demonstrating the falsity of the proposition: "There are no true propositions", and the failure of the two methods is to be accounted for in very much the same way.

(iii) A third familiar example of ostensibly self-refuting propositions is the attempted denial of my own existence. The proposition: "I do not exist", is said to be self-contradictory because the "I" whose existence is denied by the proposition is the very "I" which propounds the proposition. In this type of proposition, the conflict is between the *import* of the proposition and an alleged *implication* of the asserting or even entertaining of the proposition. The inner self-contradiction of (iii) is elicited in a somewhat different manner from either (i) or (ii) and yet the procedure is vitiated by virtually the same fallacy. The statement: "I do not exist", considered as a detached propositional meaning, is free from all contradictoriness as is evidenced by the fact that when the same propositional meaning is entertained by another subject, there is not the faintest suggestion of a self-contradiction. I can deny your existence or you can deny mine without the slightest suggestion of contradiction, and yet the proposition: "I do not exist", uttered by me, is the exact equivalent of the proposition: "You do not exist", uttered by you and addressed to me. The denial of the self is logically suicidal only when I

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deny my own existence or you deny yours, but not when I deny your existence or you deny mine. It follows, therefore, that the proposition: "I do not exist", when its meaning is divorced from the fact of its being uttered or entertained by me, is not *per se* self-contradictory. The semblance of self-contradiction is produced only because the propositional meaning is refuted when confronted with the extraneous fact of my asserting or entertaining it. The proposition "I do not exist", would really be a self-contradictory proposition only if it implied the proposition: "I exist", which it plainly does not. The most that can be claimed is that my act of entertaining the denial of my existence implies that I actually do exist and thus that the complex proposition: "I deny that I exist" is untenable. The *cogito* argument is guilty of an unconscious and illicit shift from one epistemological level to another, namely, from the perspective of the proposition: "I do not exist", to the new perspective of the proposition: "I deny that I exist." In shifting from the point of view of the primary proposition: "I do not exist", to the point of view of the secondary proposition. "I assert that I do not exist", the argument surreptitiously introduces an introspective or introspective element foreign to the meaning of the proposition initially entertained. The argument thereby introduces into the meaning of the proposition an extraneous and concealed factuality, just as did the attempted formal refutation of proposition (1). My assertion or entertainment of the proposition: "I do not exist", may serve as the occasion for the introspective apprehension of myself as then existing, but clearly this introspective act is not an integral part of the meaning of the proposition asserted or entertained. The introspection of the self could just as well have been performed on the occasion of the entertainment of any other proposition. The denial of the existence of a hippogriff affords just as good an opportunity for self-observation as does my denial of self-existence. The fallacy of concealed factuality which lies at the root of the method of self-refutation assumes, in the case of the *cogito*

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argument, the special form of concealed and unrecognized self-introspection.

The logic of the method of self-refutation may also be attacked on the ground that it appeals to the principle of contradiction, but that this principle is not itself provable by the method of self-refutation. Even Leibniz, who relied so confidently on the method of self-refutation to validate all other *a priori* truths, did not envisage the validation of the principle of contradiction by this method, but presumably resorted in the case of the laws of thought to the rationalistic criterion of self-evidence. The contradictory of the principle of contradiction, namely, "Contradictory propositions may be simultaneously true", is not self-contradictory. The exponents of the method of self-refutation assert that all *a priori* propositions are deducible from the principle of contradiction, and yet are unable to account for the validity of the principle of contradiction itself.

The foregoing criticism of the method of self-refutation would seem to justify the conclusion that there are no genuinely self-refuting propositions. To be really self-refuting a proposition would either have to imply its own contradictory—and this violates the very nature of formal implication—or else it would have to make a dual assertion and denial of the same propositional meaning—and in this case it would not be a single proposition, but two propositions combined into a single statement. Such a dual statement would be a self-refuting formal *system*, but not a self-refuting *proposition*. Now it is, of course, quite possible to construct propositional systems containing mutually contradictory propositions and such systems are certainly false, but their falsity is no guarantee of the truth of any one of the contradictory propositions which they contain. Truth, therefore, would seem to be unattainable by any formal manipulation of propositions.

(3) The presuppositional method of Kant is one of the most original and ingenious variations of the rationalistic

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theme. The basic principles of mathematics and of the natural sciences are, on Kant's view, *a priori* truths whose validity is established by the presuppositional method. The purely logical principles, although undoubtedly recognized by Kant to be *a priori* in character, are arbitrarily excluded by him from the body of principles validated by his presuppositional procedure. He does not indicate whether he excluded them because of a conviction that they are self-evident truths in the sense of the older rationalism or because he regarded them as *rules* not possessing truth-value. His failure to give some account of the validity of the principles of logic is doubtless attributable to his uncritical acceptance of the traditional logic, the laws of thought being sacrosanct do not receive transcendental proof as do the axioms of mathematics and the basic assumptions of natural science.¹ But, with the exception of the strictly logical principles, all *a priori* truth is guaranteed by the transcendental or presuppositional procedure, the logic of which I shall now examine.²

The truth of certain *a priori* principles, namely, the axioms of mathematics and the basic postulates of science, is, according to the Kantian thesis, presupposed by the very possibility of experience. Kant's argument from experience to the *a priori* principles of knowledge is not direct, but is mediated by certain entities—the forms of intuition and the categories of the understanding—with which the *a priori* principles are conversant and through which they are validated. The pure forms and pure concepts are in Kant's terminology also described as *a priori*, but *a priori* has two quite different senses in these two contexts: the *a priori status* of the mediating entities is to be distinguished from the *a priori truth* of the principles—though the former is the ground of the latter. We may accordingly distinguish two principal steps in the transcendental or presuppositional argument: (1) the *regress*

¹ Cf. Norman Kemp Smith's remarks on Kant and the traditional logic. *A Commentary to Kant's "Critique of Pure Reason"*. Second edition, pp. 185 ff.

² The analysis of the presuppositional method given in the next paragraph I have condensed from my essay on "The Transcendental Method" in *The Heritage of Kant* Edited by J. T. Whitney and D. F. Bowers

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from experience to the formal entities which are its conditions or presuppositions, and (ii) the progressive validation of *a priori* principles on the basis of the apriority of the forms and concepts. (i) The *regressive* argument from experience to its indispensable presuppositions, which is the crux of the transcendental argument, starts from a *de facto* analysis of experience. Kant discovers within experience, in addition to its matter or content, certain formal features, namely, space, time, and the categories of substance, causality, etc., and he seeks to demonstrate that these formal ingredients of experience are of such a character that without them experience, at least of the type with which human minds are familiar, would be impossible. If they are thought away, experience itself is thought out of existence. By this argument Kant believes that he has proved the absolute necessity and, in his sense, the apriority of space, time, and the categories, as regards their application to actual and possible experience. The presuppositional argument is, despite its plausibility, logically inconclusive. From the fact that space, time, and the categories are empirically discoverable features of every experience and that experience devoid of them is "unthinkable" it does not follow that they are necessary in any absolute sense. Kant's conviction that experience without its *a priori* forms is impossible can be justified only in one of two ways: either he could argue that experience devoid of its formal features is "inconceivable", and in so doing would be reverting to a pre-critical rationalism, or he could assert that the doctrine of the apriority and ideality of the formal ingredients of experience is the most plausible hypothesis to account for experience as we know it, and in this case he would be embracing ordinary empiricism. The presuppositional method of Kant is found, on close examination, not to be a genuinely new philosophical method and consequently an alternative to both rationalism and empiricism, but a variant of one or the other of these pure types of philosophical methodology. The presuppositional procedure was foredoomed to failure by the *de facto* character of its starting-point, combined with the

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demonstrative character of its procedure. Logical presupposition obtains between propositions within a formal system; thus any theorem in a geometrical system may be said to presuppose the earlier theorems and ultimately the axioms, but the extension of the term to the relation between a *de facto* feature of experience and its *a priori* condition can only result in confusion. A certain proposition belonging to a formal system may be presupposed by another of the same system, but a factual state of affairs cannot properly be said to presuppose anything else. Kant's attempt to graft the rationalistic notion of logical presupposition upon an empirical or *de facto* analysis of experience was, in the nature of the enterprise, abortive.

(11) The *progressive* phase of Kant's argument is the validation of *a priori* principles by reference to the *a priori* forms and categories. If space, time, and the categories were necessary and indispensable features of experience without which experience would be impossible, then it would, no doubt, follow that the principles descriptive of those features would be *a priori* true of actual and possible experience. The *a priori* status of the formal features of experience guarantees the *a priori* truth of the propositions descriptive of those features. The transition from pure forms and concepts to principles, while necessary to complete the transcendental argument, contributes nothing to our understanding of the presuppositional method as such. Hence Kant's attempt to validate *a priori* truth by a presuppositional method starting from experience must be accounted a failure because the crucial step of the argument (step (1) above) is logically anomalous and inconclusive.

(4) The postulational theory of the *a priori* so drastically modifies the conception of the *a priori* held by the three rationalistic theories just examined that it is a virtual abandonment of the older *a priori*. The theories of self-evidence, affirmation by denial and presupposition, despite their radically different explanations of the validity of *a priori* knowledge, share the conviction that certain propositions possess an

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absolute, *a priori* truth. The postulational theory, on the other hand, while retaining the notion of an *a priori* factor in knowledge, repudiates *a priori truth*. According to the postulational theory, *a priori* principles are non-derivative and non-factual propositions which serve as postulates in formal, deductive systems. Postulational principles are *a priori* not in possessing an absolute *truth* independent of experience, but by virtue of their function in non-empirical, formal systems. The principles which are entertained or posited in the construction of deductive systems are not on this account asserted to be intrinsically true; truth accrues to them and to the system to which they belong only in so far as they conform to experience, and such truth is of the factual *a posteriori* kind.

A priori principles are of three general types distinguishable according to their logical character and the varying functions which they perform in a formal system: (i) definitions, (ii) postulates, and (iii) rules. (i) A definition is a statement of the meaning of one abstract concept by reference to other concepts of the formal system. Definitions, since they are statements of symbolic equivalence, are neither true nor false nor, indeed, do they become true, even when a formal system is shown to be applicable to a concrete empirical situation. Definitions, although cast in propositional form, neither possess truth-value in themselves nor are they capable of acquiring it when formal definitions are empirically exemplified; they remain purely definitional even after a concrete content or filling is supplied by experience. The most familiar examples of definitional postulates are those encountered in mathematics and logic. The definition of a straight line as the shortest distance between two points is not a truth, nor does it become a truth because an actual physical line is found which closely approximates the definition. The principle of contradiction is, at least in one of its versions,¹ to be accounted a definition or rather a consequence of accepted definitions of truth and falsity. Definitional postulates are not restricted to logic and geometry, although, no doubt, these two formal

¹ Cf pp 188 f, above.

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sciences afford the most obvious examples of this type of postulate. Epistemological systems, in so far as they afford alternative criteria of truth, are to be viewed as merely definitional. The correspondence theory, the coherence theory, and the other criteria of truth are but so many alternative definitions of truth—a position which, as suggested above, leads to the paradoxical conclusion that a theory of truth is itself neither true nor false. Similarly, formal systems of ethics may be constructed upon a definitional basis, indeed, hedonism, perfectionism, asceticism, and other principles embodying moral criteria are, as will be shown in the next chapter, just so many variant definitions of “the good”.

(11) A *postulate* is a non-derivative proposition in a deductive system which serves as a premise for the system. Postulates differ from definitions in that they are capable of acquiring truth-value when the formal system of which they are the premises is found to be conformable to the factual state of affairs, whereas truth can never pertain to a definition. Postulates are cast in the mould of truth even when they do not actually possess truth. The actual truth or falsity of a postulate has nothing to do with its apriority, a postulate is *a priori* solely in consequence of the logical position it occupies in a particular formal system. As a postulate it is merely entertained or posited without regard to its truth-value. Nevertheless, the truth capacity of postulates is a property of the utmost significance. If it can be shown that a given set of postulates is factually or empirically true—or more accurately if it can be shown that a certain factual situation conforms at least approximately to the ideal and abstract conditions prescribed by the definitions and postulates of a formal system—then it follows that all propositions constituting the formal system are at least approximately true of the factual situation. A system of logic or of mathematics is *pure* so long as it remains on the plane of abstractness; it becomes *applied* logic or mathematics as soon as a factual situation can be shown to conform to the abstract properties and relations defined by the formal system. The transition from pure science to applied science is mediated

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by the all-important principle of inference—the principle, namely, that if a factual state of affairs conforms to the definitions and postulates of a valid formal system, all the theorems of the system are true of the same factual situation. Factual truth enters the formal system by way of the postulates and then, so to speak, circulates throughout the entire system. Indeed the value and utility of formal systems is in large measure attributable to the truth-capabilities of the system. Were it not for the truth-capacity of a formal system, it would remain to the end a pure and unexemplified abstraction—possessing perhaps an aesthetic perfection of its own—but utterly without cognitive significance. Thus it may be said that the system of the Hegelian categories, despite its ingenuity and perfection of form, is cognitively worthless because, unlike the propositional systems of formal logic and pure mathematics, it is incapable of assuming truth-value with respect to determinate factual situations. A non-propositional system of the Hegelian type is, despite the pretentious truth-claims of its author, inherently incapable of becoming a vehicle of actual truth.

Postulates are *a priori* in relation to the formal systems for which they serve as principles, but they do not possess *a priori* truth. That any particular postulate is not *a priori* true is conclusively demonstrated by the possibility of constructing an equally valid formal system employing an alternative postulate which contradicts the postulate in question. If logical and geometrical systems were uniquely determined by their definitions, so that given a set of definitions one and only one set of postulates could be constructed, this fact would suggest—although even this would not conclusively prove—that such postulates were axiomatic. The plausibility of the older rationalism rested largely on the fact that the Euclidean geometry seemed to be such a unique system, but with the advent of non-Euclidean geometries, this principal support of the absolute *a priori* was demolished.

(iii) The third type of principle is the regulative principle or rule in accordance with which the construction of formal

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systems proceeds. The laws of thought and the other principles of inference belong to this type. The principle of contradiction construed as a regulative principle is the rule which forbids the inclusion of mutually contradictory propositions within a single formal system. The rules of formal discourse resemble the rules of a game in that neither type of rule admits of being true or false. Regulative principles are closer to principles of the definitional type ((i) above) than to principles of the postulational type which are actual premises of formal systems ((ii) above), since they are by virtue of their logical nature incapable of assuming truth-value. The principle of contradiction in the form which serves as a rule of system-building is devoid of truth-value; this is not to deny that other versions of the principle of contradiction may serve as premises of a formal system and may even be transformed into factual assertions.

The three types of principles, different as are their functions in formal systems, have two important traits in common. In the first place the principles, of whatever type, are *a priori* in the only legitimate sense of the word—that is to say, they are abstract, intellectual constructions of the mind which are suggested by already familiar facts and provide a pre-formed framework for the assimilation of new domains of fact. Formal systems are *a priori* schemes applicable to actual facts and envisaging as yet unexemplified factual possibilities. They differ from ordinary *a posteriori* knowledge in that they are neither inferences nor generalizations from the facts which serve as their point of departure. In the second place, the principles and the formal systems to which they belong do not as such possess truth-value, although they are often cast in a propositional truth-mould which permits the conversion of a formal system into a system of truth whenever the premises of the system are found to coincide with the inductive hypotheses and generalizations in a certain factual domain. The truth of the system is, however, *a posteriori* in character. Thus, although there are *a priori* principles and *a priori* systems there are no *a priori* truths.

CHAPTER X

Valuational Knowledge

VALUATION is ordinarily excluded from epistemology, presumably on the ground that it is a non-cognitive process to which the analyses and categories of factual and formal knowledge are inapplicable. Now it is unquestionably true that moral and aesthetic appraisals cannot be judged true or false in the same sense as ordinary factual propositions. Nevertheless, moral and aesthetic appraisals have a quasi-cognitive aspect; they are expressed in the same propositional form as statements of fact, they make claims upon our intellectual assent, and they are subject to the same logical operations as factual truths. It would, therefore, seem incumbent upon the epistemologist at least to consider the cognitive *claims* of valuational propositions and to examine the relation between valuational, factual, and postulational propositions. In the analysis of the meaning, import, and possible validity of valuational propositions I shall confine my attention to the ethical, because ethical theory is in a more advanced stage than aesthetic theory, and presumably there is no difference of principle between the moral and the aesthetic judgment.

Traditional ethical theory, preoccupied with the criteria of morality, has tended to slight questions relating to moral knowledge. The primary concern of ethics is, and doubtless should be: What is the nature of the good? What are the criteria by which we distinguish between right and wrong? But these questions can only be intelligently answered in the light of some theory as to the nature and cognitive function of moral judgments. Even Kant, from whom one would expect a critical treatment of the subject, never seriously addresses

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himself to the questions: "How is moral knowledge possible?", "How are synthetic *a priori* propositions in ethics possible?" Indeed the little he does say on the subject of moral knowledge is a relapse into an uncritical rationalism.

The ethico-epistemological problem, "What is the nature of moral knowledge and whence does it derive its validity?" admits of solutions corresponding to the solutions of the general epistemological problem, namely, rationalism, empiricism, intuitionism, etc. But, since it would be futile to re-hash the controversies of epistemology in an ethical context, I shall define the issue in distinctively ethical terms. The crucial issue of moral cognition is between the positivists and the transcendentalists. Moral judgments, according to the transcendentalists, are conversant with a trans-empirical realm of moral values and ideals, by reference to which their validity (one may even say their "truth") is determined; ethical positivism, on the other hand, seeks to interpret moral knowledge in empirical terms and without recourse to transcendent moral values.¹

The issue between the moral transcendentalists and the moral positivists pervades the entire history of ethical theory; the classical systems of ethics can, with the exception of a few doubtful and borderline cases, be classified as one or the other. Plato, Aristotle, St. Thomas, Kant, and Hegel are the transcendentalists; Socrates, Spinoza, the utilitarians are to be included among the positivists.

The issue between positivism and transcendentalism is a fundamental one, and I shall not attempt to deal with it for its own sake, but only to the extent that it directly bears upon the epistemology of valuation. The transcendentalist position, as the array of names supporting it would suggest, has much to be said in its favour. The great merit of the theory is that

¹ This definition of positivism is conformable to the historical positivism of Comte and should be acceptable to the most recent exponents of positivism, the logical positivists, whose technique for the analysis of the meaning of scientific and philosophical concepts may profitably be extended to ethical concepts which are so notoriously vague and confused

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it affords an objective basis for moral knowledge. Transcendent and objective values, if there really were such, would provide a secure and adequate foundation both for the general principles of morality and for individual moral judgments. The theory of moral objectivity renders moral judgments literally true in consequence of their conformity to the moral order of the universe. If one insists upon real objects for judgments of moral evaluation, he can scarcely avoid the transcendentalist theory, for it alone posits moral values as the appropriate and literal objects of moral knowledge. Value-cognition is precisely analogous to conceptual cognition, and just as a realistic interpretation of the latter presupposes a world of universals, a realistic attitude towards the former presupposes a realm of values. In both a realism of universals and a realism of values the postulate of objectivity is invoked to provide appropriate objects for the corresponding modes of cognition. The issue between positivism and transcendentalism in value theory is the exact parallel of the issue between the nominalists and the realists as regards universals. Universals are the proper objects of conceptual cognition, as transcendent values provide a secure and absolute basis for moral judgments, and thus it is no accident that conceptual realists from Plato to the present have, with a few exceptions, been defenders of the objectivity of values.

The epistemological argument for objective values is inconclusive. Although it would be very satisfying to our metaphysical instincts to have an ontologic object for every type of cognition, it is in vain that we expect reality to conform to all our cognitive demands. The postulation of values, in order to provide appropriate objects for valuational cognition, is a variety of "wishful thinking" to which the philosopher is peculiarly prone, but he should curb this ontological impulse and be guided by the maxim: "Accept nothing as real unless its reality is supported by irresistible empirical evidence". There would seem to be no empirical evidence, either direct or indirect, for a realm of transcendent values. On the con-

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trary, there are certain powerful considerations which militate against ascribing to values a reality *sui generis*. Valuational realism is open to all the objections which have been urged against conceptual realism in Chapter VII. The principle of parsimony which is so damaging to the claims of a realism of universals is equally subversive of transcendent values, since the transcendent theory of values is simply the extension to value-concepts of the realistic theory of abstract universals. The hypostatizing of ideals, norms, and values is prompted by the same motive which led in the conceptual domain to the positing of abstract universals and essences, as universals are posited to afford appropriate objects for generic concepts, and thus to validate *a priori* knowledge conversant with such essences, so values and other ideal entities are posited to afford appropriate objects for moral and other valuational concepts and to authenticate moral and aesthetic "truth". But just as in the one case it is possible to give a thoroughly adequate account of the objectivity of conceptual cognition and formal principles without resorting to Platonic universals, so in the other case the meaningfulness and validity of moral and other normative judgments is explicable without recourse to a transcendent realm of values, norms, or ideals. The hypothesis of trans-empirical values is by no means indispensable to an adequate interpretation of valuational cognition, if it is possible to give a strictly positivistic analysis of moral cognition.

Judgments of moral worth are embodied in propositions having the same logical form as those employed to express ordinary factual truth.¹ Propositions of the type "Pleasure is the highest good", "Theft and lying are morally reprehensible", "I ought to come to the assistance of a friend in distress", etc., are *formally* indistinguishable from purely factual propositions such as "Pleasure accompanies the satis-

¹ The present analysis of moral cognition is an expansion of my article, "Cognition and Moral Value". *The Journal of Philosophy*, xxxiv, 9, pp 234-9

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faction of desire", "A is a thief", or "A is a friend of mine". Furthermore, judgments of moral evaluation are subject to the same logical operations as are non-moral or purely factual judgments; indeed judgments of the two types may combine as premises to yield conclusions, as when I argue "I ought to help a friend in distress", "A is a friend in distress", therefore "I ought to help A". Syllogisms of this combined factual-valuational type are of great moral and ethical utility, since every application of an ethical principle to a particular moral action may be expressed in such fashion. The ethical syllogism ordinarily consists of a valuational major premise, a factual minor premise, and a valuational conclusion. The basic rule governing the valuational syllogism is: "The conclusion cannot be an evaluative proposition unless at least one of the premises is evaluative"—a rule which precludes a factual proof of a moral maxim. Any violation of the basic rule of the valuational syllogism commits "the valuational fallacy". Moral and other valuational judgments are, despite their formal similarity to factual judgments and their ability to enter into logical combination with them, radically different in their import. Our first task will be to enumerate peculiarities of moral judgments—peculiarities disclosed by the logic of meaning but not taken account of by formal logic.

Moral judgments assume a variety of forms: "Such and such is good or bad, right or wrong"; "This ought to be done, that ought not to be done"; "It is my duty to act in this manner", etc.; but the variant forms possess a common core of meaning. The distinctive features of the moral judgment, in whatever form expressed, are the following:

1. *The "subject" of the moral judgment is a person.* "Subject" here refers *not* to the logical subject of the moral judgment, which may be any one of several things—including the action and the agent—but to the moral agent or agents whose conduct is under surveillance. Very frequently, of course, the moral judgment is concerned more with the action than with the agent, as in the statements: "The country ought to be

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protected against Communist propaganda", or "Someone ought to tell him of his faults". Furthermore, the moral subject may be indefinite, or it may embrace a group of persons, but there is no moral judgment without at least an implicit reference to personalities in their capacity as moral agents. Even in the case of general moral maxims or ethical principles, such as "Pleasure is good", "Selfishness is evil", etc., there is an implicit reference to moral agents—indeed to the totality of all moral agents. Moral principles are translatable into judgments about moral agents generally.

2. *The moral judgment relates to action or conduct.* A moral judgment, to be complete, must include a description of the moral situation and the specific action or type of action deemed morally appropriate in that situation. It may be urged that we sometimes appraise moral characters *without regard to their action*, as when we say "X is a good man" or "Y is a culprit", but such judgments are in reality appraisals of the totality of actions of X or Y extending over a long interval of time, perhaps even a lifetime. It is impossible to appraise characters except as bundles of action or tendencies toward action. Characters cannot be judged except by their action, nor actions except on the background of personality and temperament.

Moral judgment often precedes action and operates as a determinant of action, and this pragmatic function of the moral judgment is sometimes considered an essential part of its meaning. The moral judgment, "You ought or ought not to do so-and-so", is perhaps uttered in the expectation of inducing the approved action in the agent who hears the appraisal, but this exhortatory function of the moral judgment is extrinsic and unessential. Any judgment of approval or disapproval, whether or not calculated to influence action, is to be classed as moral. The retrospective moral judgment, "You ought to have done so-and-so", is identical in its moral import with the corresponding anticipatory judgment. The distinctive trait of the judgment of moral valuation is *not* its

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ability to influence action, but the mere fact that it is *about* action.

3. *Moral judgments are evaluative in that they involve the appraisal, either favourable or unfavourable, of the agent and his action.* The valuational factor, which is almost if not totally absent in factual judgments, is the very nerve of the moral judgment. If the normative element be extracted from moral judgments, the science of ethics becomes nothing but a catalogue of factual statements, possessing psychological, historical, or sociological import, but devoid of ethical significance. The dichotomy between factual and valuational statements has been criticized especially by idealists on the ground that all factual judgments are selective and that selection is a form of valuation. The idealistic contention that factual judgments contain a valuational ingredient results from a confusion between the rôle of value in the genesis of a judgment and value as the object of judgment. No doubt the achievement of a factual insight by the most prosaic scientific investigator is guided and dictated by valuational considerations, but the resultant judgment is *about* facts, *not* about values.

I shall postpone until a later stage of the argument the *explanation* of moral valuation; at present I am merely insisting that it is one of the essential ingredients of the moral judgment. If the foregoing analysis of the import of ethical propositions is correct, every complete moral judgment ought to state three things: (1) *The agent or "subject"* whose conduct is under moral scrutiny; (2) *the specific action or type of conduct* being judged; and (3) *the appraisal or evaluation.* The most convenient formulation of the moral judgment is the obligatory proposition: "X (the subject or agent) ought (the evaluative copula) to do so-and-so (the action)." This is "the strict logical form" of moral propositions. The alternative subject-predicate form is: "Y (a certain action by a specified agent) is (the copula) good (the moral epithet)." Each of these forms of statement has its peculiar advantages: the obligatory form conforms more closely to the foregoing analysis of the import

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of the moral judgment, since it contains explicit reference to each of the three ingredients of the moral judgment. Furthermore, it gives greater prominence to the normative or valuational function of the moral judgment by embodying it in the copula rather than in the predicate. The "ought" expresses the modality of the entire moral judgment, and therefore, like the "may" of the problematic, or the "must" of the apodeictic, properly belongs in the copula. On the other hand, the ordinary subject-predicate form of statement possesses the advantage of entering more readily into logical combination with propositions of the factual sort. The difference between the two types of statement is largely one of emphasis, and I shall accordingly assume that a statement of the one type is translatable into a statement of the other type.

The present analysis of moral judgments is applicable both to appraisals of the specific moral acts of specified agents as well as to moral maxims and ethical principles. There is no absolute distinction between individual propositions, general propositions, and principles; a general proposition is simply a shorthand summary of a number of individual propositions, and a so-called "principle" is either a generalization or a postulate—in either case it has meaning only in reference to specific individuals. Moral statements of such varying degrees of generality as "I ought to do so-and-so", "Theft is wrong", and "Pleasure is the highest good" represent in the last analysis moral appraisals of specific acts. The first is obviously an individual appraisal of a specific act of a specified agent; the second is a moral maxim applicable to all actions of a certain type; the third, the hedonistic principle, asserts that all individual acts which are productive of the maximum of pleasure are *ipso facto* good, and has no meaning except as relating to individual pleasurable acts.

The question of the *meaning* of an ethical judgment, which has thus far been our sole concern, is to be distinguished from the question of the *validity* of the moral valuation. The distinction between meaning and validity in the valuational sphere

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is precisely analogous to that between meaning and truth in the factual sphere; it is one thing to determine the precise meaning of propositions and quite another to inquire into the truth or falsity of the propositions to which a determinate meaning has already been affixed. We encounter in the problem of the validity of valuational propositions difficulties equal to, if not surpassing, those which confront the epistemologist in the treatment of factual and formal cognition.

The validity of judgments of moral valuation—both of principles and of individual moral judgments—receives a different explanation by each of the four principal theories of moral cognition: (1) *the intuitional theory*, (2) *the empirical theory*, (3) *the demonstrative theory*, and (4) *the postulational theory*. I propose to examine each of these theories in turn and to show that only (4) is epistemologically sound.

(1) *The intuitional theory* claims that moral cognition is effected by a direct and immediate insight into the moral worth of individual moral acts or into some supreme moral value by reference to which the moral worth of individual acts is determinable. According to one version of the theory, the goodness of a specific act or agent is an intrinsic quality of the act discernible by direct inspection; according to the other version, only pure, abstract goodness is intuitable, and the moral worth of any specific act is decided by the degree to which it approximates to the ideal of goodness. But it makes little difference whether, with the moral-sense theory, the moral value is construed as a quality resident in the specific act and discoverable by the moral sense, or whether, with the abstract and transcendental moralists, the moral values are assigned a locus in a preternatural realm of eternal and immutable values. The two theories, to be sure, differ in their views concerning the locus of moral values, the former asserting that values are immanent in the moral act, the other assigning them to a transcendent realm of universals. They also differ in their accounts of the relation between moral principles and individual moral valuations; the moral-sense

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theory validates individual moral judgments by reference to the intuition of specific moral values and regards moral principles as inductive generalizations from such individual judgments, whereas the transcendentalist theory first validates moral principles by appeal to the abstract and eternal values and then verifies individual moral judgments either by subsuming them under principles already established or by direct comparison of specific acts with the abstract moral values. Both theories agree in asserting that moral statements are the embodiment of truth—a truth which rests ultimately upon an appeal to an intuition of objective values.

(2) *Moral empiricism* is the attempt to validate moral maxims and moral principles by generalization from experience. Empiricism in ethics holds that moral propositions may be established inductively from the moral practices and the moral precepts prevailing among mankind. Whatever commends itself to the moral consciousness of all men and is recognized by them as good is thereby established as a valid moral criterion. Moral empiricism assumes that a moral principle may be elicited from the diverse and apparently conflicting practices of different men and different societies, much as a scientific law may be discerned in apparently diverse and incomparable natural phenomena.

The empirical verification of moral truths encounters an insurmountable difficulty, namely, that the moral coerciveness of a maxim of conduct cannot be derived from its factuality. A strictly empirical validation of a moral judgment is unattainable because a value-judgment contains an ingredient—namely, authoritativeness or coerciveness—which transcends the meaning of a judgment of fact. It is a basic rule of valuational logic that an evaluative conclusion cannot be elicited from non-evaluative, *i.e.* factual premises. By generalization from experience it is frequently possible to formulate uniformities of human behaviour and of appraisals of conduct, but one cannot deduce a moral maxim or principle from such uniformities, however constant and exceptionless. Even if it

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could be shown that there is one basic moral maxim which all men acknowledge and according to which they regulate their conduct—and that this is *not* the case is one of the most obvious of moral facts—this would not constitute a validation of the maxim in question. Moral philosophers, whenever they have attempted an inductive science of ethics, have failed lamentably: J. S. Mill's argument from psychological to ethical hedonism is a notorious instance of the fallacy of the empirical procedure. Because all men by nature desire pleasure, he inferred that pleasure is desirable in the ethical sense. The hedonistic fallacy committed by this argument is merely a particular instance of what I have already described as the "valuational fallacy", namely, the attempt to convert a factual generalization into an evaluative truth. The valuational argument violates the primary canon of valuation logic, namely, that a valuational conclusion can only be elicited from premises at least one of which is itself valuational. Evolutionary ethics is another classical example of the valuational fallacy. Let us assume that it is possible to discern in the evolution of mankind an all-embracing law of the type of the famous Spencerian formula. The formula descriptive of the process of moral evolution, even though it might be capable of *suggesting* a certain moral criterion, could not *authenticate* that criterion. From the fact that evolution proceeds in a determinate direction, it does not follow that the individual ought to act in such a way as to promote the continuation of this process. Evolution and moral progress do not necessarily coincide, and the assumption that the law of evolution is the basic principle of ethics is entirely gratuitous.

Certain empiricists, facing the difficulty of discovering any universally acknowledged good, have altogether repudiated the quest for the normative in ethics, and have thereby reduced ethics to a purely descriptive science—a subdivision of history and anthropology. This total abandonment of the valuational which is the outcome of a narrow empiricism is utterly inimical to the science of ethics, for the normative or the valuational

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ingredient is the distinctive feature of ethical statements. Certainly value and valuation, whatever their ultimate metaphysical status, are in some sense indubitable facts of which a broader empiricism cannot fail to take account.

(3) *Ethical rationalism*.—Normative propositions cannot be derived from experience; neither can they be established by pure logic. The rationalistic conviction that ethical truth is embodied in a single, consistent system is refuted by the very possibility of alternative ethics. Alternative ethics are internally consistent systems of morals which contradict one another in certain respects; consistent hedonism and consistent asceticism are alternative ethics in that there are at least some actions enjoined by the one system yet prohibited by the other. One could doubtless devise alternative ethics so opposed to one another that *every* act approved by the one would be forbidden by the other. Logic offers no ground whatsoever for deciding between alternative ethics, any more than between alternative systems of geometry. The choice, if one is to be made, will have to be determined by extra-logical considerations. A controversy between representatives of alternative systems of ethics can no more be resolved than a dispute between two foolish mathematicians one of whom espoused Euclidian geometry while the other defended some form of non-Euclidian geometry. If moralist A espouses a consistent system of ethical principles, in accordance with which a given act is good, while moralist B has adopted an alternative ethics by reference to which the same act is bad, the conflict cannot be decided by logic alone.

Empirical and demonstrative ethics are in a sense diametrical opposites, and yet they are both guilty of precisely the same fallacy, namely, the gratuitous derivation of a valuational proposition from a non-valuational. Empirical ethics surreptitiously adds a normative ingredient to a factual generalization; demonstrative ethics attempts by conceptual analysis, employing only the laws of thought, to validate a standard of conduct, but it fails because moral propositions are not

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analytic and cannot be proven by the principle of contradiction alone.

The fallacy of demonstrative ethics is apparent in Kant's professed proof of the categorical imperative. From the mere concept of *a* categorical imperative, Kant believes it possible to derive his own formula of *the* categorical imperative and at the same time to prove its authoritativeness.¹ Kant argues that a categorical imperative, since it is by definition universally coercive, must of necessity enjoin universal action. The fallacy of the argument is the illicit shift from universality of *form* to universality of *content*; simply because a categorical imperative is universal in form, that is to say, commands universally, it does not follow that its content, namely, that which it enjoins, is universality of action. In brief, Kant is guilty of confusing the *how* and the *what* of the categorical imperative. An even more serious defect of Kant's rationalistic procedure is that it fails to justify the authority and coerciveness of the categorical imperative. Kant argued that since his formulation of the categorical imperative could be derived by logical analysis from the concept of *a* categorical imperative, it alone was morally coercive. But the concept of *a* categorical imperative by no means uniquely determines the moral principle which Kant proposed as *the* categorical imperative; indeed, *any* moral principle whatsoever—even hedonism, which Kant so greatly disdained—can function as a categorical imperative.

The inability of pure logic to provide a principle for moral action is illustrated by another aspect of the doctrine of the categorical imperative. The nerve of the categorical imperative is the logical principle of contradiction, in that a literal contradiction results when the attempt is made to universalize the maxim of an immoral act. The categorical imperative is

¹ "We will first enquire whether the mere conception of a categorical imperative may not perhaps supply us also with a formula of it, containing the proposition which alone can be a categorical imperative . . ." and he concludes, ". . . when I conceive a categorical imperative, I know at once what it contains." Kant's *Fundamental Principles of the Metaphysic of Morals*. Translated by T. K. Abbot in *Kant's Theory of Morals*, sixth edition, pp. 38 ff.

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nothing but the principle of contradiction converted into an ethical principle. Its inadequacy for this purpose becomes at once apparent in Kant's attempted application of the principle to concrete actions. The *contradictions* which Kant professed to discover in the universalizing of the lying promise, stealing, etc., are nothing but *conflicts*. He has shown at most that the acceptance of certain maxims by all men would produce social and economic chaos, but he uncovered no literal contradiction in the universalization of immoral maxims. Indeed *any* moral maxim whatsoever, however subversive of society, admits of universalization without logical contradiction. Since the canons of logic cannot be transformed into ethical principles nor ethical principles be logically demonstrated, the entire project of erecting ethics on a foundation of pure logic must be abandoned.

(4) *Postulational Ethics*.—If the norms of moral valuation cannot be elicited by generalization from experience nor by the processes of pure logic, whence then do they come? How is it possible in terms of empiricism and positivism to account for the normative and evaluative functions of the moral judgment? The modern conception of postulates lends itself admirably to the solution of this difficult problem of moral theory. If ethical norms and ideals are in conformity with the referential theory interpreted to be mere creations or imaginative "projections" of the mind, then the so-called moral "principles" may be considered postulational in character. I shall in expounding this position first describe in some detail the psychological genesis of ideals, and then attempt to explain how ideals, although "subjective" in origin, acquire an influence over the mind which has the semblance of absolute authority and coerciveness.

Ideals are "creations" of the mind, but this does not mean that they spring suddenly out of nowhere. Ideals, like all other products of the human imagination, are compounded of ingredients, the origin of which may be traced to experience; moreover, the framing of ideals is ordinarily prompted by

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obstacles and frustrations encountered in experience. Ideals, although originating in experience, are not *dictated* from the experience in the manner prescribed by ethical empiricism; experience provides the *milieu* and the stimulus for the formation of an ideal, and may even *suggest* the ideal, but the ideal itself is a product of the creative imagination of an individual mind or of a society of minds. Any situation requiring action permits the imaginative projection by the agent of an indefinite number of possible ideals. Under these circumstances there is a rivalry or competition of ideals which is resolved by the dominant interests, habits, and dispositions of the agent, and the particular ideal which finally gains the ascendancy is determined by the peculiar mental make-up of the agent at the time. In short, an ideal is a plan of action projected by an agent to meet a specific problem or situation; it is the imaginative representation of a state of affairs different from the actual state, but one which is better suited to the needs and wishes of the agent.

The psychological doctrine of intent which underlies the account given of the cognitive processes, and which was invoked to explain the objective reference of knowledge, is applicable to ideals. An ideal, once it has been adopted by the mind for the guidance of action, is "intended" by the mind; action is directed towards it as an objective just as every cognitive process is directed towards its peculiar object. Indeed, any imaginatively envisaged ideal of action is also an object of cognition, since I cannot strive to realize an ideal without cognizing its fulfilment. The phrase "my *intention* is so-and-so" aptly expresses the direction of my mind toward an ideal or objective. The ideal "intended" does not actually exist when it is contemplated—indeed if it had such real existence it would *ipso facto* cease to be an ideal. The common belief in the literal objectivity of ideals is a consequence of the same tendency of mind which leads to the hypostatization of universals, negative entities, possibles, and their like. An ideal possesses not literal but only quasi- or pseudo-objectivity;

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it is an imaginatively entertained goal towards which our actions are directed and upon which they converge.

Ideals, then, are real, but only as plans of action in the minds of their creators and in the minds of others to whom they have been communicated and who share them with their originators. Were all minds annihilated by some cataclysm of cosmic proportions, ideals would be swept away with them. Since, however, ideals can be thought *of* and communicated from one mind to another, they acquire a quasi-objective status, but, ontologically considered, they have a reality neither greater nor less than that of imaginary and fictitious objects. They differ from ordinary imaginative and mythological "objects" solely in the fact that they are considered to be realizable. Anyone who seriously entertains an ideal believes that the present actual situation can by the incidence of his ideal be moulded into conformity with it. An ideal, then, is an imaginative reconstruction of the actual projected upon the actual in the hope and expectation that the actual can be moulded in conformity to it. The ideal emerges from the actual and then in turn becomes an instrument for its transformation. The ideal, were it not for this close connection with the actual state of affairs both in its genesis and its instrumental function, would not differ from a purely imaginary object. The difference between an ideal and a pure fiction is well illustrated by the contrast between a mythological animal, say a centaur or a hippogrif, and some variation of an existing biological species—or in rare cases even a new species—the production of which by selective breeding is within the limits of scientific possibility. Thus a breeder of racing-horses is guided in his selective breeding by an ideal—an ideal which has been suggested by his acquaintance with actual horses, but which has been modified to meet specific aesthetic and utilitarian requirements and even to satisfy the whims and caprices of the individual breeder. The ideal, formed in this manner, may enable the breeder to produce an animal closely approximating his ideal. The ideal thorough-

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bred is not a Platonic form residing in a heaven of universals, but is a conception in the minds of horse-breeders and connoisseurs of fine horses. Such an ideal differs from a pure figment of the imagination, such as a centaur, solely in the closeness of its relation to the actual; the idealized thoroughbred is biologically possible, the centaur presumably is not. Ethical and social ideals are not essentially different from the idealizations of the plant or animal breeder, for, like the latter, they originate in the actual while imaginatively transcending it. A man's dominant ideal—his so-called life ambition—is embraced in his youth, and is influenced by a multitude of circumstances, such as his position in life, the example of people about him, the impact of religious and educational institutions; these formative influences provide the materials for the formation of his personal moral ideals, but they are little more than suggestions which each man fashions into a new and unique pattern which is his personal ideal. Thus, while the moral ideal is empirical in its constituents, its plan and organization are creations of the individual's creative imagination. A social ideal is more complex than a personal ideal, but it can be accounted for in similar fashion; it is an imaginative transformation and idealization of empirically observed social practices and arrangements. The prototype of a social ideal, like democracy, communism, or totalitarianism, is to be found in actual historical forms of social organization—indeed their origin may usually be found in the structure of primitive societies. The social reformer or the revolutionist creates his ideal by envisaging novel combinations and imaginative transformations of features of historical or existing societies. Even a Utopia, which may be described as the imaginative concretion of a social ideal, is resolvable into empirical constituents. Empiricism as applied to personal, social, and political ideals means simply that the ingredients of every ideal, however sublime or exalted, are derived from observed moral and social practices. Ideals, as their empirical original and imaginative character would suggest, possess a

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high degree of fluidity. If an ideal when partially realized proves disappointing, it can be drastically revised or can be completely abandoned and replaced by a new ideal. Indeed, the history of individual moral development and social progress is one of the constant supercession of ideals. The new situation brought about by the incidence of one ideal provides the soil for the germination of a new ideal, which in turn is replaced by yet another ideal.

The foregoing account of the genesis of moral and social ideals may be briefly summed up as follows: (1) An ideal has reference to some actual situation, *e.g.* my present personality and circumstances or the imperfect social arrangements of the present, for the correction and improvement of which the ideal is devised. (2) An ideal is an imaginative projection upon this actual situation, the ingredients of which are derived from experience but the pattern of which is contributed by the imagination. (3) In any given situation there may be two or more rival ideals each competing for dominance. This may be called the principle of rivalry of ideals. (4) An ideal is always motivated by want or desire and is devised either to escape the distastefulness of the actual situation or to achieve a new state of affairs in closer conformity to the agent's desires. Were it not for the operation of desire and the frustration of desire, ideals would never come into being. (5) A serious ideal, in contrast to the fictions of idle day-dreaming, is presumed, within the limits of available knowledge, to admit of realization. The agent who embraces an ideal tacitly assumes that the actual situation can, by appropriate action on his part, be altered so as to approximate his ideal. Moreover, such volitional action takes place under the direct control and guidance of the ideal. (6) When an ideal has been realized or has shown itself undesirable or unrealizable, or the external situation has altered so that the ideal is no longer appropriate to it, it may be discarded in favour of a new ideal, and this process of supercession of ideals may continue indefinitely.

The psycho-genetic account of the origin of moral ideals

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and of their operation as formative influences in human conduct provides the background for the more significant question of their validity. Why should one ideal be accepted rather than another? What authority and coerciveness, if any, are possessed by ideals imaginatively projected by moral agents upon concrete moral situations which confront them? The question of the validity or "truth" of moral ideals and standards is the ethico-epistemological problem *par excellence*, and the adequacy of a theory of moral standards is measured by its ability to answer it satisfactorily.

The impossibility of validating a moral ideal by an appeal to pure logic has already been established in the critique of demonstrative ethics. If a man is confronted with a moral situation in which $I_1, I_2, I_3 \dots$ are rival ideals any one of which may serve as the basis of action, there is no purely logical ground for choosing between them unless perchance one or more of them is self-contradictory because it combines within itself conflicting and incompatible ideals. Nor can it be said that one of these ideals harmonizes with, while the others are discordant with, an eternal and immutable standard of goodness, since the mind possesses no infallible moral intuition for the discernment of absolute moral norms. It is equally impossible to elicit from experience a criterion for deciding between the rival ideals. Experience may suggest certain ideals and eliminate others which seem in any given situation to be unrealizable, but there is always, with reference to any concrete moral situation, a plurality of genuine alternative ideals among which experience affords no basis for choice. These considerations suggest that no ideal has any authority over an agent's conduct except the authority which accrues to it because he has voluntarily embraced the ideal, or is a member of a society which is governed by the ideal in question. The authority of an ideal is, in the last analysis, self-imposed; an ideal, once grafted on an individual or group either by chance or by choice, has henceforth the semblance of coerciveness. Ideals, once embraced, persist, if only on

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account of the mental inertia of those by whom they have been adopted and the inexpediency of constantly changing one's ideals. Ideals which are embodied in the law, or have the sanction of a religion, are especially tenacious. Thus ideals to which we have become accustomed *seem* to possess an absolute and inherent coerciveness, but actually they are coercive only because we consider them to be so.

Ideals are communicated from one mind to another not by logic and demonstration, but by example and persuasion; it is impossible to inculcate an ideal by proving that it alone is valid and that all rival ideals are spurious, but an ideal may be portrayed in all its ramifications and consequences so as to persuade others to accept it also. Ideals vary greatly in their emotional appeal, in their aesthetic quality, and also in their ability to satisfy basic human needs and impulses. A man having initially embraced an ideal because of its emotional and aesthetic appeal or because of training and example, then proceeds to act *as if* it and it alone were true and valid. The belief in the essential "rightness" of one's own ideals is like all beliefs exceedingly contagious, and ideals spread from individual to individual until they pervade an entire society.

Moral ideals and moral principles—a moral principle is nothing but the articulation of someone's or some group's ideal—have an authority not essentially different from the rules of a game. The rules, let us say of contract bridge, have been literally made by successive generations of players within the conditions prescribed by the "materials" of the game, the fifty-two cards divided into four suits, each suit consisting of ace, deuce, etc. These "materials" of bridge are the constant factors of the game conditioning any set of rules, much as the "material" conditions of morality, namely, human nature, the structure of society, and physical nature are the relatively invariant factors in moral situations to which any workable moral ideal must conform. But within the limits imposed by these conditions there is considerable freedom in the formulation of rules of bridge or canons of morality; there are

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alternative sets of bridge rules, just as there are alternative, feasible systems of morality. There is, however, a practical compulsion to agree upon and to adhere to one of these alternative systems. The particular set of rules of bridge evolved under the specific conditions of the game must be accepted by anyone who wishes to play the game, and similarly an individual must adopt certain ideals or rules to govern his conduct, rules which harmonize more or less with general rules of the society to which he belongs. Such ideals are conditionally or hypothetically coercive for an individual in a given society. Any individual who chooses to play the moral game must accept the prevailing ideals of his society, but he may at his own peril adopt ideals of his own which conflict with prevailing social ideals, or he may even become an ethical nihilist and reject ideals altogether.

Ethical ideals—or rather the principles which embody them—have just been likened to the rules of a game, but there is a more exact parallel, namely, between ethical principles and the postulates of a mathematical science. Neither ethical principles nor geometrical postulates are true in the strict sense; they are only posited in order that their logical implications may be elicited. Furthermore, just as there are alternative systems of geometry which are equally consistent, so there are rival systems of ethics, each internally coherent yet mutually contradictory. Nor does the similarity end here; the physicist or the astronomer takes over a geometry which suits his purposes and employs it as a framework for his science, and in like fashion an individual takes over a system of ethical ideals and moulds his conduct to it. There is thus a surprising *rapprochement* between the two apparently disparate sciences of mathematics and ethics.

According to the postulational interpretation of ethics, there is no one absolute and definitive system of ethics; instead the rival ethical theories of hedonism, asceticism, perfectionism, etc., are genuine alternatives. The task of ethics is no longer the elaboration of a system of moral truth. If there is in ethics

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no truth and no falsity, what becomes of ethics as a science? What tasks remain to be performed by ethics and ethical theory? To these questions it may be replied that the primary task of postulational ethics becomes the deductive elaboration of the various logically possible systems of ethics. To accomplish this involves not merely the taking over of historical formulations of traditional ethical positions, for the typical positions rarely appear in pure and consistent form in the history of ethics, but requires the refinement and purification of historical theories to elicit from them a number of internally consistent, though in some cases mutually exclusive, systems. Such a procedure may suggest variations of ethical theory which, though logically possible and morally advantageous, may never have appeared in the history of ethical theory. The purely formal deductive articulation of ethical theories has the same value in relation to practical morals that the elaboration of formal systems of logic and mathematics has in relation to empirical science; the formalization of deductive systems renders them more available for application. A second task for postulational ethics is to relate the several systems of ethics to practical morals by considering the consequences of the adoption of each alternative ethics under the actual conditions of human life and society. Such inquiries, although incapable of proving or disproving the theories, may help to determine their availability under the conditions of human society as now constituted. Thus consistent egoism, for example, though theoretically sound, would, if widely or universally adopted as a moral ideal, produce intolerable consequences. Thus the practical consequences of ethical theories, while incapable of verifying or falsifying them, may militate for or against their acceptance.

While there is no way of proving one system of ethics and disproving the rest, there are nevertheless two *desiderata* of a "good" ethical system which, though in no sense absolute, are practical rules which serve as a guide in the choice among rival ethical theories. In the first place, an ethical theory

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should be internally consistent, since the incorporation of conflicting elements into one's ideal results in discordant and self-defeating action. Though consistency is a *sine qua non* of a system of ethics, this does not, however, preclude the modification of one's ethical ideal when it proves in certain respects unsatisfactory, nor even its abandonment if it proves entirely inadequate. Ethical systems sometimes prove unworkable, and, when they do, it is advisable after a fair trial to abandon one system and turn to a new one. But an ethical system should never be hastily rejected in favour of a rival; the arbitrary shifting from one system to another is tantamount to the adoption of an inconsistent system. Secondly, an ethical system should not conflict with a basic human instinct in such fashion as to enjoin actions for which men have a deeply rooted antipathy. Human nature is so constituted that certain actions are revolting to most men. Thus the ruthless destruction of life and property, while it cannot be *demonstrated* to be morally reprehensible, is repugnant to the moral sentiments of decent men everywhere. This consideration has been frequently used to validate certain ethical principles and to refute others, but the procedure, however persuasive to men who share these sentiments, is theoretically inconclusive. Any attempt to establish a moral precept by appeal to the *consensus gentium* is an instance of the valuational fallacy of empirical ethics already criticized. The most that can be claimed for such a principle as the Kantian formulation of the categorical imperative which enjoins treating other men as ends, not as means, is its profound persuasiveness, but never its strict truth.

In concluding, let me repeat the principal contention which the foregoing argument has sought to substantiate, namely, that postulational ethics offers a far more satisfactory explanation of moral knowledge than is offered by either rationalistic or empirical ethics. The superiority of rationalistic ethics lies in its ability to provide standards for the testing of moral judgments; but, unfortunately, these standards are rigid and

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absolute. Empirical ethics, on the other hand, allows for the relativity and flexibility of morals, but it provides no genuine standards of moral conduct or of moral appraisal. Postulational ethics provides standards, but of a tentative and provisional sort. In short, rationalism has standards without flexibility; empiricism flexibility without standards; postulational ethics combines standards with flexibility.

CHAPTER XI

Knowledge, Meaning, and Truth

A THEORY of cognition, to be complete, cannot avoid giving an account of the nature of truth and falsity, since truth pertains to at least certain cognitive situations, and is commonly regarded as the goal and culmination of the cognitive activities of mind. The terms cognition and knowledge, in the broad and inclusive meaning assigned to them in the foregoing chapters, apply not only to definitely articulated truth-situations, but to any situations which might be expected to eventuate in truth. Thus the direct, non-propositional apprehension of qualities and things involved in inspection, perception, and introspection is cognitive in so far as it may be expected ultimately to yield truth and likewise the imaginative elaboration of concepts, categories, and formal systems is cognitive in that such concepts and systems, although perhaps not themselves true, are the instrumentalities of truth-seeking. Even valuational propositions and systems have been included within the domain of the cognitive broadly defined because in form, at least, they resemble truth-systems, and because the truth-claim has so often been made for them. The distinction between true and false is frequently extended downward in the scale of cognition as when one speaks of "true" perceptions and "false" perceptions. A "true" or rather a veridical perception is one which may be expected to yield a true perceptual proposition, whereas a "false" or non-veridical perception, *e.g.* an illusory or hallucinatory experience, is one which is likely to deceive and thus to lead to a false proposition of perception. Strictly speaking, of course, the epithets true and false are applicable only at the propositional level of cognition

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and are only extended, so to speak, by courtesy to the several forms of non-propositional or pre-propositional cognition.

The proposition is the proper locus of truth and nothing except a proposition can become the vehicle for the expression and communication of genuine truth. The supposition that truth can reside in a conceptual scheme, such as, for example, the Hegelian system of categories, is the result of a fundamental confusion of thought—the failure to differentiate between the cognitive processes of sensation, perception, and conception, by which truth is obtained, and fully articulated knowledge which is always embodied in propositions. Cognition may be either propositional or non-propositional, but truth is invariably propositional.

Truth is a property of propositions and thus the problem of truth is that of determining what constitutes the truth of a proposition. What are the characteristics of truth-situations as distinguished from non-truth situations, including in the latter category not only false propositions but propositions merely posited, entertained, or questioned? The traditional theories of truth, which are the alternative answers to this question, are: (1) the *intrinsic* or *qualitative* theory which maintains that truth or a reliable index of truth is a property inherent in certain propositions or propositional meanings; (2) the *coherence* theory which asserts that truth, while not resident in individual propositions in their isolation, accrues to such propositions by virtue of their coherence with a wider system of propositions and meanings; and (3) the *extrinsic* theory according to which neither isolated propositions nor even coherent systems of propositions possess truth *per se*, but that truth is attributable to propositions only by reference to a domain of fact extraneous to the propositions themselves.

(1) 'The *intrinsic* theory has been discussed and criticized in Chapter IX in connection with the problem of the *a priori* and I need not repeat here the reasons for rejecting it.

(2) The *coherence* theory is, as I shall attempt to show, not

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an independent theory of truth, but is reducible either to (1) or (3). Coherence as the term is employed by the exponents of this theory, is used ambiguously in both a formal and a material sense. Formal coherence is a property of propositions in so far as they belong to formal systems of the type described in Chapter IX. The propositions constituting such systems must be free from logical inconsistency; they must be framed with reference to a specified set of definitions; and they must be constructed in accordance with the rules of inference. A proposition is coherent with a given formal system if it can be assimilated to that formal system without violating any of the *desiderata* of formal systems just enumerated. The question as to whether a certain proposition is coherent or non-coherent is meaningful only in relation to some specified system, for clearly a proposition may be coherent with one formal system yet incoherent with another. Idealistic logicians, committed on metaphysical grounds to the doctrine of logical monism, namely, the assumption that there can be one and only one thoroughly coherent and hence true system, have naturally considered coherence an absolute and invariant trait of a proposition. Any given proposition either is or is not coherent with the one absolute system. But with the advent of logical pluralism—the recognition that consistency and coherence may be properties of different and even mutually inconsistent formal systems—consistency can no longer be considered both the necessary and the sufficient condition of truth. Formal coherence of a system of propositions is a necessary but not a sufficient condition of truth; though an incoherent system cannot be true in its entirety, a consistent system need not be true. A formal system is, as formal, neither true nor false and a perfectly coherent system may with respect to some specified domain of fact be found false. A further criticism of the coherence theory, in its traditional form is that the exponent of the coherence theory when it suits his purposes, employs the term in a material sense—as when he speaks of coherence with the facts or coherence of facts with one another. Material

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coherence is the conformity of a proposition or a propositional system to some domain of fact. It is evident that this extrapropositional coherence is not properly speaking coherence at all, but is an appeal in the name of coherence to an extraneous factuality. The coherence theory so construed is nothing but the extrinsic theory in disguise. The ambiguity latent in the notion of coherence of the idealistic logician accounts for the superficial plausibility of the theory, the idealistic logician passes unconsciously and imperceptibly from formal to material coherence and *vice versa*, with the consequence that material factuality, which is so indispensable to any adequate conception of truth, but so thoroughly uncongenial to the idealistic logician, enters the idealistic system under the guise of formal coherence. The coherence theory, after its fundamental ambiguity is brought to the surface, is seen to be either the intrinsic theory of truth of traditional rationalism, extended from individual propositions to the single all-embracing system of truth, or else a version of the extrinsic theory of truth which substantiates truth by a concealed and reluctant appeal to recalcitrant factuality.

(3) The *extrinsic* theory of truth assumes a variety of forms of which the correspondence theory and the pragmatic theory are the most familiar. The correspondence theory, in its most familiar version, defines truth as a correspondence between ideas in the mind and real physical objects external to the mind. The theory is associated historically with the theory of representative perception, but this affiliation of the correspondence theory of truth with a particular epistemological theory of perception is the result of historical accident and not of any necessary logical affinity between the two theories. Because of this accidental association, the correspondence theory has been subjected to an unfair type of criticism which, though perhaps damaging to a crude representative perceptionism, is not pertinent to the conception of truth as correspondence. The conventional criticism of the correspondence theory is that if truth is a relation between

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ideas or sense-data as immediately given and an extra-mental object, the correspondence could never be confirmed, since its confirmation would require the direct comparison of the idea with its object—a comparison which is precluded by the inaccessibility of the object to direct inspection. In other words truth is defined by the correspondence theory in such a way that its presence in any cognitive situation could not possibly be ascertained; it therefore affords a conception of truth which is useless and meaningless. Now the difficulty embodied in this criticism arises solely from the adoption of the theory of representative perception—which, although to be sure it may and in the past frequently has been combined with the correspondence theory of truth, is not essential to it. When, however, the correspondence theory is entirely dissociated from the theory of representative perception, it is no longer open to this criticism, and it is such a theory of correspondence which I shall now attempt to formulate.

Truth may be defined as the correspondence—or as I shall prefer to designate it, the congruence—between the meaning of a proposition and a factual situation. Congruence, the crucial conception in the definition, is an unique harmony or accord between meaning and fact which eludes precise definition and description. When a propositional meaning is confronted with the crucial fact, the fact is recognized as either conformable to or discordant with the meaning intended. The confronting of a meaning with a fact, which is the crux of verification, is, in its psychological aspect, an act of recognition not essentially different from the recognition of a familiar face or a familiar voice. In ordinary recognition, the memory of the object of an earlier perception is confronted by a present perception of the same object, whereas, in verification, a propositional meaning—achieved by abstract conceptual processes—is confronted by a perceptual object which ordinarily is encountered for the first time. Verification is the recognition that a perceptual object is conformable to the propositional anticipation of it. The psychological mechanism

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of recognition, and hence of verification, varies greatly from individual to individual. Individuals, whose imagination is exceptionally vivid, perhaps achieve recognition by a comparison of a memory image with the present perception to determine whether or not the two resemble each other; usually, however, the recognition depends upon a felt-congruence between the expectation and the fulfilment. When I meet a friend on the street I do not, in order to recognize him, have to conjure up a memory image in order to compare it with my present perceptual experience; I simply "feel" that his appearance conforms to a familiar pattern. Similarly a propositional meaning may for certain minds be clothed in sensuous imagery, such that it can be directly compared with the sensuous ingredients of the verifying percept, but usually the congruence between the meaning of the proposition and the percept which verifies it is directly felt. When the propositional meaning is confronted with the fact which verifies it, the mind recognizes without any explicit comparison that the fact is conformable to the meaning. The process of discovering the conformity is analogous to the successive trying of keys in a lock to see which fits. We do not reject certain keys and identify the "right" one by comparing the shape of the keys with the internal structure of the lock, but by successively trying the keys to see which "fits". The term congruency—rather than correspondence or resemblance—is employed because of its greater generality; the agreement between a propositional meaning and the crucial fact which supposedly verifies it is analogous to the congruence between two geometrical figures which admit of superposition or to the agreement between the shape of the key and the arrangement of the inside of the lock. When the facts "fit" the proposition, the proposition is true, but when the facts do not "fit" the preconceived meaning, the proposition is thereby falsified.

The proposition to which truth accrues by virtue of its congruence with a factual situation is not the proposition considered as a mere verbal statement, but the proposition

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as conveying a determinate meaning. A propositional meaning may be defined as a propositional statement plus its meaning or intentionality. Now the meaning of a proposition is always embodied in concepts which are individually empirical in their origin and which are combined in a novel way in the proposition. Until the proposition is verified by the appeal to experience, it is not known whether the composite meaning expressed by the proposition is or is not exemplified in fact. When, for example, I assert that the ash-tray on the table before me will produce a metallic ring if I strike it, the meaning of the proposition is conveyed by the concepts, "table", "in front of", "I" or "self", and "metallic ring", each empirical in origin. The truth or falsity of the statement hinges upon whether the actual state of affairs is or is not congruent with this total propositional meaning. If, when I actually strike the ash-tray, the sound emitted exemplifies my empirical concept, "metallic ring", then the proposition is verified; if it does not conform to my preconception, the proposition is falsified. This example, which is typical of the process of direct verification of a proposition, illustrates the important rôle played by empirical concepts in the constitution of propositional meanings and in their verification. Apart from the meaning which accrues to a proposition from its constituent empirical concepts, a proposition is an empty, verbal statement incapable of verification or falsification; moreover, the verification itself consists in exemplifying in the factual state of affairs one or more of the concepts embodied in the proposition.

There remains to be considered the nature of the fact by reference to which the truth of a proposition is determinable. Empiricists commonly supposed that a proposition is verified by reference to a bare datum in its character of brute fact, but such an account of the verificatory situation is unintelligible. How can a meaningless fact entirely devoid of conceptualization and interpretation be assimilated to a meaningful proposition? It was this very difficulty which Kant formulated and attempted to solve in the chapter on "The Schematism

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of the Pure Concepts of Understanding". Kant is confronted with the question: "How is the *subsumption* of intuitions under pure concepts . . . possible?" because of his contention that "the pure concepts of the understanding are quite heterogeneous from empirical intuitions".¹ His own solution to this difficulty, which was to invoke time as a *tertium quid* mediating between the conceptual and the factual, was highly artificial and unsuccessful, but the problem posed by the "Schematism" is genuine and unavoidable. Bare facts cannot be subsumed under or assimilated to pure meanings, and hence the fact which constitutes the verification or falsification of a propositional meaning is not a bare fact, but a fact suffused with conceptual meanings. Accordingly, verification involves the confronting of a propositional meaning with another meaning, usually a perceptual meaning, and the congruence or incongruence between the two meanings determines the truth or falsity of the proposition. The "metallic ring" which verifies my assertion that the ash-tray is metallic rather than wooden is no mere sound-datum, but is a sound perceived and recognized by me as conforming to my concept, "metallic sound". The congruence by means of which truth is established is then neither a correspondence between data of sense and a physical object—as the theory of representative perception holds—nor between a statement and a brute factual datum—as certain positivistic theories seem to maintain—but between a propositional meaning and a non-propositional, usually a perceptual meaning. But it will be objected: "If *verification* is the assimilation of a perceptual meaning to an anticipatory meaning, is not the correspondence theory thereby transformed into a coherence theory which moves endlessly within a circumscribed system of meanings?" "Is not the *conceptualization* of fact tantamount to the denial of factuality?" In reply to this objection I should urge that the denial of *bare* factuality and the insistence that factuality as encountered in experience

¹ Immanuel Kant, *Critique of Pure Reason*, A 137–8, B 176–7. Norman Kemp Smith's translation, p 180

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is suffused with meaning and interpretation is not to deny factuality altogether. Every percept contains a sensuous core in addition to its conceptual, interpretational, and constructional ingredients; the sensuous core of the percept itself is the factual element in the perceptual situation by reference to which the perceptual proposition is verified or falsified. No perceptual proposition can acquire truth and no perceptual concept can be shown to be exemplified except by exhibiting an actual percept having a core of factuality. An ingredient of factuality is similarly contained in non-perceptual knowledge, for example in introspection.

The direct verification of any proposition consists in exhibiting in experience actual objects which exemplify the concepts specified by the proposition. If actual entities can be found conformable to all the conceptual conditions embraced within the total propositional meaning, the proposition is true, otherwise it is false. Besides direct verification by appeal to perception, memory, introspection, and other modes of factual cognition, there is an indirect verification by means of inference and hypothesis. Historical propositions, propositions about the future and other propositions about inaccessible objects admit of indirect or inferential verification, but all such indirect verification relies, at some point, on perceptual or quasi-perceptual evidence.

Certain empiricists in philosophy, for example logical positivists and pragmatists, would challenge the distinction between direct and indirect verification, or rather would urge that all genuine verification is direct verification and that propositions about inaccessible objects, for example, the contents of another's mind, are meaningless, because unverifiable. This view is an exaggerated expression of the important truth that there is no indirect verification which does not entail at some juncture the employment of direct verification, either perceptual, mnemonic, or introspective. The rejection as meaningless of all statements incapable of direct verification rests on too narrow a definition of the meaningful. The definition of

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the meaningful as the directly verifiable arbitrarily contracts the domain of the meaningful and proportionately enlarges the domain of the meaningless in a way which does violence to ordinary linguistic usage, thereby relegating many genuinely significant and communicable propositions to a limbo of the meaningless. The line of demarcation between the meaningful and the meaningless may be drawn in another way with logical precision, and yet in much closer conformity with the usages of language, by defining a meaningful proposition as the description of a factual state of affairs by a set of concepts each of which is empirically definable or exemplifiable. A concept in order to possess empirical meaning need not actually be exemplified in experience, as are the generic concepts ash-tray, colour, sound, etc., but it must be resolvable into concepts and operations which are exemplified or exemplifiable.¹ When the meaningfulness of propositions is thus broadly conceived, many so-called "metaphysical" propositions fulfil the conditions of meaningfulness, even though they do not admit of direct verification. For example, propositions regarding the contents of another's mind cannot in the nature of the situation be directly verified, and yet I can meaningfully assert that another mind has an emotion, say of anger, because the component concepts, "other", "mind", "emotion", "anger", and the relation asserted by the proposition to obtain between them are individually exemplified in immediate experience, and thus their conceptual amalgamation, though not exemplifiable, is, nevertheless, meaningful. Not only are such propositions *meaningful*, but they may often be *true*, even though the evidence for them is indirect and their truth merely problematic.

The conceptual theory of meaning extends the scope of the meaningful and the verifiable far beyond the limits of a positivistic or radically empirical theory of meaning and it must, accordingly, guard against the opposite error of diluting the

¹ The empirical derivation of various types of exemplified and un-exemplified concepts is given in chapters vii and viii above

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concept of the meaningful by allowing it to become too comprehensive and therefore vague. The precise determination of the meaningful will be facilitated by specifying the conditions to which a proposition must conform in order to be meaningful in the wide sense.

(1) *Every concept employed in a meaningful proposition must either itself be capable of empirical derivation and application or its reference to experience must be supplied by supplemental definitions.* An individual concept possesses meaning only if it is actually exemplified, as are the familiar generic concepts "snow", "cold", "quality", "thing", "relation", "existence", etc., or if it is derivable from experience by precisely definable operations, as are such concepts as " $\sqrt{-1}$ ", "number", "centaur", "fiction", "ideal", "possibility", and "negation". The citation of actual instances of unexemplified or unexemplifiable concepts is precluded, and yet their empirical derivation gives them an indirect reference to experience.

(2) *The concepts entering into a meaningful proposition must be mutually relevant and compatible.* When concepts belonging to utterly different universes of discourse enter into combination, the resultant propositions are meaningless nonsense. The mutual relevance or irrelevance of concepts can never be determined with absolute assurance, yet experience usually affords some indication as to whether a specified combination of concepts could or could not be co-exemplified. A given conceptual combination should be repudiated only after careful examination because, frequently, the most original and significant discoveries in mathematics, science, and philosophy have been embodied in superficially nonsensical combinations of concepts.

(3) *The concepts constituting a meaningful proposition must be mutually consistent.* Conceptual consistency goes beyond conceptual relevancy, since two concepts which are mutually relevant—that is to say, belong to the same universe of discourse—may, nevertheless, be inconsistent, as, for example, the geometrical concept of a square-circle; indeed, mutual relevance

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is an indispensable condition of both consistency and inconsistency. The inclusion of inconsistent concepts within a propositional complex is tantamount to the entertainment of a number of inconsistent propositions, and is thus a potential violation of the principle of contradiction. Conceptual inconsistency frequently lies beneath the surface and is discernible only when precise definitions of the several component concepts have been given.

(4) *The total propositional meaning conveyed by the complex of concepts must be such that the verification or falsification is possible.* A proposition to be verifiable or falsifiable must contain nothing which would preclude putting it to the test of consonance with the facts. To be sure it can never be asserted with absolute confidence in advance of the actual verification of a proposition, whether or not it is verifiable. The statement, "Such and such a proposition is verifiable", is a statement of possibility and, as was disclosed by the analysis of the category of possibility, all assertions or denials of factual—in contradistinction to logical—possibility are problematic and conjectural. The question we have to ask ourselves in deciding whether a proposition is possible of verification is this: "Is the crucial situation, which would test the truth or falsity of the proposition, one which seems in the light of available knowledge to be a factual possibility?" The question of testability of a proposition is answerable only by specifying the conditions requisite to the direct or indirect verification of the proposition. If these conditions are such that there exists a strong presumption that they could never in fact be fulfilled, the proposition is unverifiable; if, however, there seem to be no insurmountable obstacles to the fulfilment of the specified conditions, the proposition is verifiable. The claim that a proposition is verifiable or unverifiable can only be hazarded after the most scrupulous consideration of what would be involved in its verification.

The objection that the definition of meaningful here advocated is guilty of the opposite error of that committed

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by the logical positivists, namely, the error of so enlarging the domain of the meaningful that there remain few if any really meaningless statements, may be most readily met by illustrating each of the several respects in which propositions may *fail* to qualify as meaningful.

(1) The most frequently violated canon of meaningfulness is the demand for empirical derivation of the component concepts of a proposition. Illustrations of propositions which are meaningless, because they utilize concepts for which no factual derivation is forthcoming, may be taken almost at random from treatises on metaphysics.

Consider, for example, the monistic thesis: "Reality is a unitary substance." This statement, in order to be meaningful, must be accompanied by mutually independent definitions of terms, "reality", "unitary", and "substance". "Reality" is an indefinite and indeterminate term which is often repeated in the writings of monists, where it occurs as the subject of innumerable propositions, but rarely receives explicit and unambiguous definition. Reality may be defined as the class or totality of all *existent* things, and this is a quite legitimate sense of the word, but one which few historical reality-philosophers would be prepared to accept. Reality is employed by most metaphysicians in the broader sense to designate the totality of all existent *and subsistent* things, including in the later category universals, essences, relations, values, and other nonexistent entities. There is a third philosophical usage which opposes reality to mere appearance and designates by reality the totality of objects of all actual and possible veridical cognitions. All cognitive objects which are wholly or in part non-veridical, including illusion, hallucinations, and even, according to some philosophers, all sensuous objects, are relegated to a world of appearances. "Unitary" is used by monists in at least two different senses: first in the strictly numerical sense of being numerable as one item, and secondly in the sense of a whole of interrelated parts. The statement "Reality is one", is meaningful and indeed true, if "one" be

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understood numerically, for no matter how reality be defined, it is a single cognitive object numerable as a "one". But the statement so construed is truistic and philosophically unimportant. If the oneness of reality is interpreted as it is by most monists to connote, in addition to numerical unity, the unity of a whole of interrelated parts, the concept of systematic interrelatedness requires considerable elucidation before the proposition can be considered empirically meaningful. While it would be rash to maintain that the concept of an organic whole is incapable of empirical elucidation, yet certainly in the case of its leading idealistic exponents, the conception has remained empirically obscure and undefined. Finally, the philosophical concept of "substance" in its rôle of an inscrutable substrate is almost devoid of empirical meaning. Indeed, the traditional conception of a trans-empirical substance and of its variant, the thing-in-itself, are defined so largely in negative terms that it is difficult to see how it differs in meaning from the concept of nothingness itself. Positive content can be given to the concept of substance only by appealing to higher types of experience—say a non-sensuous intuition or a mystical vision—the very existence of which is open to question. If substance be defined not as a trans-empirical substratum but as an absolutely independent existent,¹ substance becomes an empirically meaningful concept. The proposition: "Reality is a unitary substance", is meaningful, and perhaps even true if "reality" be defined as the totality of all existent things directly apprehended or inferentially asserted; if, further, "unitary" be restricted to the numerical meaning, in accordance with which any cognitive object is numerically "one" and if, finally, "substance" be conceived as that which requires nothing else in order to exist. The proposition is then equivalent to the statement: "The totality of existents is numerically a single thing which requires nothing beyond it in order to exist". But certainly philosophers

¹ Cf Spinoza's definition, "By substance, I mean that which is in itself." *Ethics*, Part I, def. iii.

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who have espoused philosophical monism have intended to assert far more than the numerical oneness and independence of the totality of all that is; the oneness of reality has connoted for them a mystical fusion and interpenetration of the parts of the world which is not expressible in precise and empirically meaningful concepts. Thus we may conclude that the statement, "Reality is a unitary substance", is in itself and in the contexts of the chief historical systems of monism an empirically meaningless proposition.

A parallel analysis may be given of many other metaphysical propositions. "Reality is eternal" is meaningful if reality be defined as above to embrace the totality of all existents and hence to be synonymous with the empirical category "existence", and if eternal be defined negatively as the timeless. The concept "timeless", regarded as the fusion of the empirically meaningful concepts "temporal" and "negation", is itself meaningful. "Reality is eternal" may thus be construed as equivalent to "The sum-total of all existents, including temporal existents, is itself timeless—that is to say, it is not itself in time". The proposition so understood is not only meaningful, but its truth might be defended with considerable plausibility. This, however, is certainly not the meaning intended by the philosophers by whom it has been propounded. The equation of eternity and timelessness would not have satisfied metaphysical eternalists like Spinoza and Hegel, for whom eternity is an unique and exalted mode of being.

Metaphysical statements about the soul share the difficulties of those about reality. The statement, "The soul is a self-identical substance", is meaningless, for both the concepts "soul" and "substance" have a trans-empirical reference, and are thus only negatively definable in terms of experience. The soul is, to be sure, described as the substance "behind" the introspectively observable states of an individual consciousness, and is supposed to be differentiated thereby from other souls and from material substances which are the substrates of extrospective experience and from reality itself, the sub-

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stance underlying our total experience. The differentiation of one substance from another by reference to the different ingredients of experience is spurious and deceptive, because in so far as substance is negatively defined with respect to experience, the distinction between a material substance behind perceptual or extrospective objects and psychic substances behind the objects of introspection is a distinction having no genuine experiential basis. The distinction between the soul or transcendental ego, on the one hand, and the thing-in-itself or transcendental object on the other, would be meaningful only if the mind were endowed with two quite distinct modes of super-sensuous intuition, correlative to ordinary extrospection and introspection respectively. In the absence of such a superior plane of experience, the concepts of substance in general and soul-substance and material-substance in particular, are empirically indistinguishable because they equally transcend and negate ordinary experience. The assertion: "The soul is a substance", as the subsumption of one negative and non-empirical concept under another, is an empirically meaningless tautology tantamount to the assertion "Nothing is nothing". Furthermore, the self-identity which is ascribed to the substantial soul by the proposition under scrutiny, though in itself an empirically definable conception, actually exemplified in the unity of the introspected self, is meaningless when conjoined with the concept of soul-substance. The proposition, "The soul is a self-identical substance", consists, then, of the two empirically empty concepts, "soul" and "substance", and the empirically exemplified conception, "self-identity", and is as a whole meaningless; since one unmeaning concept suffices to vitiate the entire proposition of which it forms an essential ingredient.

The immortality doctrine which ascribes eternity to a soul-substance, is seen in the light of the above analyses to be an empirically meaningless position, for the proposition, "The soul is an eternal substance", suffers from a negativity inherent in all three component concepts, "soul", "substance", and

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"eternal". The problem of immortality becomes, however, a meaningful issue when concerned with the relation between the empirical self of introspection and the body as a perceptible object. The immortality doctrine is then expressible in the proposition "The empirical ego survives the death of its body", which, however difficult to verify or falsify, combines empirical concepts in a plausible way.

The meaningfulness or meaninglessness of a proposition cannot be determined by scrutiny of the proposition itself, but only by reference to the context of the proposition. If a proposition is part of a philosophical system, the question of whether it is meaningful will have to be decided by an examination of the system in its entirety to see whether or not the author has elsewhere in his system provided an empirical derivation of each of the constitutive concepts of the proposition. If he has not, the proposition is meaningless in the context of that system. This does not prevent the same verbal statement from being entirely meaningful in some other systematic context. There are some propositions which in themselves seem obviously meaningful, and others which are patently nonsensical, but this is only because the words employed in such propositions have a generally acknowledged signification attached to them. The context, by reference to which the presence or absence of genuine meaning in such propositions is determined, is the context of ordinary linguistic usage. The definitions provided by the dictionary are the context by reference to which the meaningfulness of such propositions is assessed, and hence they do not constitute exceptions to the contextual account of meaning.

(2) The second kind of meaninglessness is attributable, not to the component concepts of the proposition each of which may possess a definite empirical reference, but to the way in which such concepts are combined. When concepts in different universes of discourse are combined or when concepts in the same universe are inappropriately combined, the resulting propositions are without meaning, even when the concepts

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employed possess definite empirical meaning. In manifestly absurd and nonsensical statements such as "Virtue is blue", "The idea of red is heavier than the idea of blue", or "The square root of an angle is five", the conceptual incommensurability of the component concepts is manifest, but often the incompatibility of concepts is concealed and the propositions pass as meaningful and even true. Propositions which are vitiated by conceptual incongruity are common in metaphysics. For example, the issue between optimism and pessimism is meaningless because the statements: "This is the best of all possible worlds" and "The world is essentially evil" are guilty of the mixture of ethical and ontologic concepts. "Goodness" and "evil" are epithets applicable to moral agents and perhaps to their actions, but are totally irrelevant to the world in its entirety. Reality is as such, neither good nor evil, but is ethically neutral. Metaphysical controversies regarding the physical locus of consciousness are meaningless because the concept of simple location is irrelevant to conscious processes. The statement: "Consciousness is in the brain", seeks to assimilate to a single spatial scheme consciousness which is an object of introspection and the brain as a perceptual or as a physical object. Items from two disparate universes of discourse cannot be brought together by means of a relation, expressed in this case by the word "in", which is appropriate to one and not to the other of the two universes. A similar confusion of categories is involved in the uncritical employment of spatial metaphors in the description of conscious relations. For example, in the statement "Ideas and thoughts are *in* the mind", the relation between the conscious stream and its constituents is confused with the relation between a physical receptacle and the articles inside it. The absurdities of metaphysics are in large measure due to this kind of conceptual incongruity and confusion of categories.

(3) Meaninglessness, arising from conceptual inconsistency, is very different from the meaninglessness arising from conceptual incongruity; in the one case, the concepts combined

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are mutually relevant but inconsistent, in the other, they are mutually consistent but irrelevant. Indeed, conceptual inconsistency is possible only between concepts belonging to the same universe of discourse. The proposition "Square-circles exist" employs mutually relevant concepts, provided the concepts "square" and "circle" are understood not in the strictly geometrical sense of ideal figures, but in the sense of perceived shapes which approximate to the geometrical definitions. The proposition is, however, meaningless, because of the inconsistency between the concepts "square" and "circle".

(4) Finally, there is a philosophically interesting class of propositions which, though conforming to all three of the aforementioned requirements, are meaningless because the conditions requisite for their verification or falsification are *de facto* impossible. Certain propositions are embodied in empirically meaningful, mutually consistent, and mutually relevant concepts, and yet the conditions for their verification either cannot be specified or are impossible of fulfilment. Many statements which are meaningless because they are unverifiable are to be found in science as well as in metaphysics. The assertion of the absolute rest or absolute motion of a physical particle is an intelligible and communicable statement, for the concepts "rest", "motion", "absolute space", "physical particle", are empirically definable, and indeed a physical universe can readily be envisaged in which this proposition would be both meaningful and true. Let us assume that there existed an absolute physical space such that every point had its unique qualitative properties different from every other point in space, and that the mind possessed some sensuous or intuitive faculty for discriminating the points in this space, then it would be possible to scrutinize a given physical particle throughout a given time interval and to determine whether it was in motion or at rest, but in the physical world as it is actually constituted, the human mind endowed with its present cognitive faculties can neither verify nor falsify pro-

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positions of this type. Questions of absolute motion and rest are, accordingly, physically meaningless.¹ Non-decidable issues are constantly arising in metaphysics and epistemology. It is, for example, difficult to resist speculations regarding the similarity or dissimilarity of corresponding data in different minds. I am disposed to believe that the sensory experience which I call a red patch is similar to your sensory experience produced by the same stimulus, and which you also designate as red, but, since my mind presumably has no intuitive access to your mind, my red patch and your red patch may be qualitatively incommensurable. Consequently statements concerning similarity and dissimilarity of private data of different subjects are meaningless, in spite of the fact that all the concepts involved in such statements are consistent, congruous, and empirically definable.

Questions as well as propositions are to be designated as meaningful or meaningless. I shall briefly digress to consider how the theory of meaning here advanced may be extended to questions. Questions belong to the same general category of communicable meanings as commands, exclamations, exhortations, moral, and aesthetic valuations in that they are statements utterly incapable of assuming truth-value, and yet not for that reason necessarily devoid of all meaning. In other words, a question regarding the truth or falsity of questions is utterly meaningless; what is significant about a question is whether it is pertinent or impertinent, answerable or unanswerable. The distinction between meaningful and meaningless questions may be drawn in terms of the conceptual theory of meaning, despite the fact that questions are devoid of truth-value. Meaningfulness accrues to a question only by implied reference to the proposition or propositions which would constitute an appropriate and satisfactory answer to it. *A question is meaningful if it is answerable: unmeaning if it is unanswerable.* A question to be meaningful must be so for-

¹ Cf. P W Bridgman's discussion of meaningless questions in *The Logic of Modern Physics*, pp 28-32

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mulated that there is at least one proposition which would be accounted an appropriate and satisfactory answer to it, and which would itself be a meaningful proposition according to the canons of meaningfulness set forth above. The concepts in which a meaningful question is clothed must either be empirically exemplified or empirically derived; otherwise the question would tend to elicit a meaningless answer. The ability to frame a meaningful question—while it is not itself an item of knowledge—is indicative of the possession by its propounder of a system of knowledge to which the answer would be relevant. The questioner, even in his ignorance of the correct answer to his specific question, has sufficient knowledge of the field of his question to know what kind of a proposition would constitute a satisfactory answer to his question, and thus it is that a man's knowledge of a subject may be appraised as much by the questions he asks as by the theses he propounds.

A distinction may be drawn between two kinds of questions, namely, definite and indefinite, the former delimiting the answer more narrowly than the latter. A definite question is one embodying the proposition, the assertion of the truth or falsity of which would constitute an answer to the question. Questions of the definite type are usually answerable by a simple "yes" or "no", but they may require the selection of one from a number of presented alternatives. For example, the question: "Is Mr. A at home?" is definite because the appropriate alternative answers "Mr. A is at home", or "Mr. A is not at home", are suggested by the question itself. The meaningfulness or meaninglessness of definite questions is a direct function of the presence or absence of meaning in the suggested alternative answers, and is thus readily determined by scrutiny of them. For example, the question: "Is virtue red or blue?" is a definite but meaningless question, whereas the question: "Is Mr. A at home?" is quite meaningful, assuming that Mr. A is an actually existing person. An indefinite question is one which prescribes the generic categories

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and conditions to which an answer must conform, without suggesting the specific propositions in which the answer is to be embodied. The determination of the meaningfulness of indefinite questions, accordingly, encounters greater difficulties than of definite questions. "When will the next train depart for New York?" is an indefinite question, since the interrogatory "when" indicates the temporal character of the desired answer without mentioning any specific time. "Will the next train for New York depart at 8.40 a.m.?" is a definite question. Though definite questions usually indicate a more complete knowledge on the part of the interrogator than questions of the indefinite type, the same test of meaningfulness is applicable, an indefinite question is answerable if propositions appropriately answering the question may be supplied which are themselves meaningful. The distinction between meaningfulness and meaninglessness of questions, accordingly, introduces no principle not already involved in the corresponding distinction between propositions.

The cognitive processes analysed and described in the preceding chapters take on their full significance only when viewed in the perspective of truth. The processes of cognitive apprehension, namely, inspection, perception, memory, introspection, etc., are as primary acts of mind neither true nor false. They are directed towards and absorbed in their peculiar objects and only lead to truth when they are embodied in secondary or reflective acts of judgment. Perceptions, memories, introspections, although in themselves neither true nor false, contain an ingredient of factuality capable of conferring truth upon propositions conformable to them. The significance of the lower cognitive activities consists in their contributions to truth, and thus truth is the end and goal of the cognitive endeavours of the mind.

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