*Meeting of the Aristotelian Society at 22, Albemarle Street,
London, on December 16th, 1918, at 8 p.m.*

III.—SYNTHESIS AND DISCOVERY IN KNOWLEDGE.

By JOHN LAIRD.

ACCORDING to some theories of knowledge, true cognition is simply discovery. In the last analysis, objects with their characteristics are given or revealed to the mind. The end of all our seeking in this affair, whether we are curious inquirers intent upon holding the torch of truth, or work-a-day men and women anxious to secure a little guidance for our footsteps with a humble lantern, consists in the finding or acceptance of fact. This variety of phrases indicates, broadly speaking, one and the same conception of knowledge. On the other hand, many philosophers speak a different language, and seem to follow a radically different course of thought. For their philosophy, knowledge is essentially synthesis or construction. The mind is a centre of organisation whose be-all and end-all in thinking is the weaving of a seamless unity of experience. The synthetic activities of the mind can never be given, and the unifying constructiveness which is the heart of it must be supposed to beat with the rhythm and to be the very principle of the cosmos itself.

The simplest way of attempting to stop this quarrel is to maintain that both parties are right in respect of some varieties of cognition, and wrong with regard to others. After all, there are many species of cognition, since the term includes perception, imagination, judgment, and inference; and some of these may be processes of construction while others are mere finding. Thus perception, it might appear, is plainly discovery. It is absurd to suppose that Hernan Cortes and his men made the Pacific when they descried it from that peak in Darien.

Similarly, judgment often appears to be the mere acceptance of a datum. In what other way, for example, can an orthodox Presbyterian accept the *Westminster Confession*? On the other hand, Shakespeare's fine frenzy, or Abt Vogler's rapture, or Thackeray's dalliance with the children of his fancy are surely instances of constructiveness, and the same must be said of those complex intellectual processes which we call systematic thought. The system-makers are intensely and overpoweringly creative. We should distinguish, in a word, between the constructive and the receptive varieties of knowledge, and not attempt to join what Nature has put asunder.

It is needless to point out that no solution can be reached by these short and easy methods. A very celebrated philosopher, it is true, believed that every piece of significant knowledge contained a moment of receptivity and a moment of spontaneity. But that is quite another story, and the particular solution which we have sketched in outline, is, of course, hopelessly inept. Indeed, the precise contrary of this theory would be just as easy to defend. The *æternæ veritates* do not brook interference from finite minds; the properties of numbers and triangles are very hard data, and system-makers striving to find the one conception which will fit the facts need not be supposed to be creators unless it is also necessary to assume that every man is a locksmith who searches for the right key in his bundle. In comparison with these intellectual objects, the phenomena apprehended in perception seem to be much liker constructs. We hear the clock beating tick-tack, but is it not we ourselves who are responsible for its accented rhythm? Why does the puzzle-picture look so different when the "prince" has been found, and why did Mr. Mackenzie's little hero see "the lozenges of space come out from their frame and move about in a blur" when he looked at the trellis very hard? If we perceive N-rays because we expect to perceive them, is it wholly out of the question that no N-rays were there? These conundrums, it is true, may perhaps be

answered in a way that squares with a literally realistic theory of perception, but in that case a great deal of pains and subtlety is required in order to explain the precise fashion in which they do so.

The rejection of this attempted solution, then, leaves the original antithesis where it was, and the contrast between the theories which regard cognition as a specific kind of organisation, and those which treat the process as one of discernment or discovery, is so fundamental that it often looks as if the adoption of a merely intransigent attitude on one side or the other was the only feasible course. The contention of one party is sometimes expressed in the thesis that knowing is simply not making, and that this is an end of the matter. The contention of the other party is that objects, as we mean and intend them, are never given to the mind, and that this circumstance is absolutely final. A radical divergence of this kind, therefore, might seem to indicate that each party must be left to develop its theory in its own way. The heroes of Valhalla themselves might tire of a bloodless battle in which neither army can come even into shadowy grips with the other. *Per contra*, both types of theory profess to interpret one and the same set of facts, and therefore it is scarcely credible that they should remain permanently at cross purposes in all important respects. On any theory, it appears to be a simple matter of fact that the mind in knowledge is confronted with an object which it apprehends directly, that this object is not the process of apprehension, and that the presumption is that it is just what it presents itself as being. On any theory, again, it seems to be plain that the part which the mind plays in this affair may be intensely active, and that it is never merely receptive. Even the scholastic theory of the *species impressa* assumed that the mind, in this extreme instance, was passive only in the sense that its response required to be elicited through extra-mental stimulation, and could not occur spontaneously. The researches of later psychologists tell the

same tale. Apperception, acquirement of meaning, and the rest are terms which describe genuine facts of psychology, and these facts are directly relevant to the problems of cognition.

These statements of the contrast are intentionally vague, but they suggest, even in their vagueness, that part of the difficulty may be due to the variety of considerations involved in the problem, and to the arbitrary restrictions which some of these may receive during the course of discussion. An object, for instance, might be given to the mind without being passively impressed upon that puzzling substance, or indolently received by it; and at least two guesses might be hazarded concerning the way in which this could occur. In the first place, it is possible that the mind needs to be intensely active in order to discriminate or discover correctly since it has to secure the right position for its inspection, and since it must inhibit subjective bias and irrelevant tendencies. Indeed, the fundamental obstacle in the way of accurate knowledge may be just the impossibility of being wholly successful in this endeavour, or, on a less sceptical view, of being justified in believing that indisputable success has been attained. In the second place, apprehension itself may be neither active nor passive, although it is rendered possible and sustained by certain correlated active processes. These suggestions, it is true, may not seem to be very helpful, but even unpromising paths are sometimes worth exploring, and, at the worst, philosophical excursions into blind alleys need not do any harm. It is pardonable, therefore, to develop these alternatives for a little.

The first suggestion, then, is that knowledge always consists in the direct apprehension of an object revealed to it, and that the activity of the mind in knowledge is only a process of adjustment directed to this end. Attention, for example, might be defined as that conative process which is directed singly to cognition, and although objects are sometimes presented to the mind without the need for attention in any

marked degree, this circumstance proves only that the necessary mental adjustment takes place automatically in such cases. In most instances very active concentration is needed. These conative processes, however, on this hypothesis, are always merely instrumental to cognition proper, *i.e.*, to direct inspection of the object.

This theory sounds very simple. Indeed, it is probably too simple for most philosophers, even if they admit that any theory sounds simple when expressed in the most general terms possible, and even if they are not convinced beforehand that the dignity and arduousness of philosophy require every investigator into that subject to undertake the "labour of the notion" after a certain approved pattern. None the less the theory may readily be defended against many of the objections that are commonly brought against it. There is very little force, for instance, in the argument that the mind, if this theory were true, would be only an inert spectator of a passing show, miraculously endowed with the capacity for beholding the drama of existence, but unable to play any intelligible part in it. The theory does not imply that cognition is useless or that it is unable to guide the mind in attending to practical affairs. All that is meant is that cognition is apprehension, and that apprehension is true precisely in proportion as it does not alter its object, whatever that object may be. And this thesis seems thoroughly defensible. If, when we set out to discern this thing or the other, we necessarily altered the character of the object by apprehending it, our aim would always be frustrated since we should always discern something else; and the same argument would apply, in turn, to our discernment of the very proposition that apprehension necessarily modifies its objects. Again, the fact that we are able to observe, surely does not prove that we are mere spectators in all our mental operations; and it is very hard to be forced to suppose that a practical man is not properly equipped unless he is wholly unable to apprehend things as they really are. Besides, where is the miracle?

True apprehension, let us hope, is not miraculous in the sense of being rare or because it is successful, or because it is what it is. Why, therefore, should we feel surprised ?

Still less serious is the objection that this account of apprehension would hold good of "static" objects only, so that process and progress would both be impossible. The idea that transience is inapprehensible depends upon two illegitimate assumptions, the first of these being that any apprehended object must exist contemporaneously with the apprehension of it, and the second that this process of apprehension is itself without duration. If the first assumption were true and the second false, a transition having the same duration as the process of apprehension might be apprehended. If the second were true and the first false, there would be nothing in theory to prevent the apprehension of any assignable stretch of transition ; and the same conclusion follows when both assumptions are denied. A transition, therefore, may be apprehended. And if the transition in the universe is that of progress or creative evolution on the one hand, or of retrogression on the other, how does the apprehension of these characteristics prevent the acceptance of this conclusion ?

The objection that this analysis holds of one very limited species of knowledge only, viz., knowledge by direct acquaintance, can also be answered. It is true that we have knowledge of many objects with which we are not directly acquainted. We do not know them but know *of* them. Thus the knowledge that any so-and-so, or the so-and-so, or a so-and-so is such-and-such does not imply direct acquaintance with the object or objects so designated. On the other hand, knowledge of this kind implies that the mind is directly acquainted both with the description and with the fact that the description specifies some object or class of objects. The description together with its specifying reference is the datum apprehended in these cases, and this datum is apprehended directly. To put the matter otherwise, an object which is said to be apprehended merely by

description is not apprehended at all. What is apprehended is the description and its reference.

Greater difficulties arise in connexion with error and with the development of cognition. A very obvious retort to the preceding argument is that cognition always appears, at the first look, to be the apprehension of some object, but that this object may be mere appearance, not reality. It is absurd to speak of the discovery of false objects, or "false objectives," as these really are in themselves, but the "inspection theory" of knowledge gives no hint of the way in which the critical distinction between true and false can be drawn. The truth of cognition can never be guaranteed by simple inspection.

This latter statement is, of course, indisputable, but the fact that inspection cannot guarantee the truth of cognition does not disprove the thesis that all cognition is inspection. There is no contradiction in the view that all cognition is inspection, that true cognition is inspection of objects as they are, and that false cognition is inspection of objects as they are not. Ultimately, indeed, this would seem to be the fact of the matter, whether or not error is "explained" by distortion of the object consequent upon mal-adjustment of the observing mind. Is it not wholly certain that cognition always has an object, and that this object is always apprehended? And is it not also manifest that this apprehension may be false? How then is error possible? Not surely, because, all error is partial truth, still less because all truth is partial error. The latter thesis is nothing but scepticism, even if the scepticism is buoyant with a conviction that lacks adequate vision. The former thesis does not resolve the difficulty. It may be granted, indeed, that all the elements of any complex which is falsely apprehended as a whole might be truly apprehended as members of some other whole; but dirt is still dirt though it be matter in the wrong place. The complex really is apprehended as it is not, and the fact, consequently, is either fatal to all theories or to none. It would seem, indeed, that anything which is capable of

appearing is, for that very reason, capable of appearing either truly or falsely.

Accordingly, the occurrence of mistakes in apprehension does not prove that objects are never apprehended as they really are. If it could be shown, however, that the great majority of the objects which we suppose ourselves to discover cannot be really what we take them to be, our simple faith would be rudely upset. The most important argument in support of this conclusion asserts that any apprehended object, whether it is a sense-presentation or a universal or what not, is really part of the totality of being, and yet must appear to us in comparative detachment, since the totality of being is never revealed to anyone. These premises are supposed to involve the conclusion that the objects presented to a finite mind cannot appear in their true character, since that character is *eo ipso* modified by its context in all cases. It is plain, however, that this argument contains the seeds of its own destruction, since the argument itself is not the whole of truth and consequently falls under the same condemnation as the objects it professes to invalidate. Indeed, its precise contrary must be admitted to be part of the basis of logic, and, as Dr. McTaggart says, happily adapting Sir John Eliot's famous phrase concerning Parliaments, 'None ever went about to break logic but in the end logic broke him.'* The premises of a valid syllogism, for instance, must be finally true, irrespective of their context, if the syllogism itself is finally true. And all truth is final truth.

These contentions, however, do not overthrow the less sweeping assertion that some wholes are such that their parts are essentially modified by their contexts. The illustration usually given is that of an æsthetic whole. The actions in a drama, it is said, or the shadows in a painting have their reality only through their membership in the whole. Ophelia saw the

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* *Studies in Hegelian Cosmology*, p. 292.

dumb-show, and so did Hamlet and the King, but what was mischief to Hamlet and agony to the King was nothing to Ophelia. It is clear, however, that these are overstatements. Even Hamlet and the King could distinguish the dumb-show from its significance; indeed, the fact that it was *only* a dumb-show had a great deal to do with its significance. None the less, the illustration is to the point, after all the necessary qualifications have been made, and if it could be shown that most of the objects we apprehend are so dominated by their context or by the purpose of the mind that accurate attentive discrimination of their elements is out of the question, this result would certainly be very damaging to the thesis that true cognition is literal discovery.

The facts, however, do not require this interpretation, even granting that the total object of sense perception, for instance, always has a fringe of images, feelings, and memories, or that the mind when contemplating universals never apprehends them except in a setting of images and feelings. These considerations certainly show that there is no such thing as the perception of an isolated sense datum or the cognition of a bare universal, but they do not prove that particular figures or colours, and specific universal terms and relations cannot be discerned within the whole complex (discriminated and undiscriminated) which is presented to the mind at any time. Logic, as we have seen, requires the contrary supposition with regard to the premises of an argument, and the facts of empirical psychology do not stand in its way. The case, perhaps, is more doubtful with regard to the discrimination of colours or sounds in perception or imaging, but even here the evidence is not at all conclusive.

Finally, in this connexion, the development of cognition raises points of difficulty in certain directions. These difficulties, it is true, may not seem to be very serious when they are described merely in general terms. If knowledge is discovery, the development of knowledge is progressive dis-

covery, and progressive discovery need not imply the abandonment of all discoveries which are made at early stages of the process. In the mathematical sciences, for example, progress consists partly in the deduction of conclusions hitherto unknown from known and accepted premises, and partly in the greater logical rigour by which the principles and the inferences of the science are tested. Neither of these kinds of advance is opposed to the thesis that knowledge is discovery, or implies that there can be no discovery short of the discovery of the whole. The newly discovered consequences may be simply additional to the premises already known, and the logical rigour aforesaid consists for the most part in the elimination of irrelevant elements from the principles, and in the discovery that principles supposed to be wholly unrestricted actually need restricting. This procedure, then, does not imply that knowledge is born, like Minerva, with the briefest of all obstetrical histories.

The growth of our apprehension of sense presentations, however, is more difficult to reconcile with this hypothesis, and the senses are certainly the earliest gateways of knowledge. There is differentiation of the presentation to consider as well as discernment of it. The very hue and texture of a percept change with increasing differentiation, somewhat in the way in which the visible appearance of a thing changes when it is seen under a microscope; and it is necessary to explain, somehow or other, how some presentations are better or worse, more or less adequate, than others. These difficulties, on the other hand, do not differ in principle from many well-known difficulties that arise without reference to development. In some sense or other, men, dogs, and horses are acquainted with the same things through perception, but it is plain that their sense presentations differ, that some of these presentations are more adequate than others (whatever the true interpretation of this fact may be), and that the difference in question is not merely one of more or fewer revealed qualities and relationships. These considerations, taken together, make it impossible to

suppose that a single objective world, in the most usual acceptance of that term, is literally revealed to all percipients irrespective of their degree of development and of their private constitution (for in that case every percept would contain an incalculable amount of error and distortion). It is noteworthy, however, that modern adventures in phenomenism, supported as they are by re-interpretations of temporal and spatial relationships, suggest a wide field of possible alternatives.

The second suggestion we have selected for discussion is to the effect that cognition may be both construction and discovery, since it may always be the discovery of a construction. The reason why this suggestion is seldom explicitly contemplated or discussed in philosophical inquiries into the problems of knowledge is that the fact of apprehension is simply assumed in most of the theories which lay predominant emphasis upon cognitive synthesis. According to such theories, cognitive synthesis is the synthesis of ideas, symbolic images, or other mental contents, and these, it is supposed, are apprehended just because they are mental. Contents are contents of consciousness, that is to say, we are conscious of them, that is to say, they are apprehended. A feeling exists when it is felt; indeed, the fact that it is felt is the same thing as the fact of its existence. An image is a fact of consciousness, and an unconscious or unapprehended image is a contradiction in terms. And so of all ideas. On these assumptions, the apprehension of ideas implies no problem, because it is, strictly speaking, meaningless to ask whether an idea is apprehended, since any idea is a fact of consciousness, and, therefore, apprehended. Knowledge, we are told, is apprehension *through* ideas, or, in other words, the reference of ideas beyond themselves *is* that very apprehension of an object which is investigated in theories of knowledge.

While these assumptions are very easily made, they certainly should not be allowed to pass without challenge. In the first place, consciousness and cognition are not coextensive, so that, even if conscious existence and mental existence are precisely

identical, it does not follow that either of them is *eo ipso* apprehended. In the second place, there is clearly a difference between having a feeling, and attentively discerning this feeling. The feeling is the explicit object of apprehension during this introspective process, whereas in the absence of introspection, it is either not apprehended at all or apprehended in a very vague fashion. It is very hard to believe, however, that the attentive discrimination of a feeling during the process of introspection does not afford a genuine revelation of the characteristics of the feeling itself. On any other hypothesis, introspective attention to a feeling would create a new feeling partially resembling another feeling to which attention had not been directed, and it is hard to see how the truth of this could be known without introspective observation of both the resembling terms. If, then, characteristics of the feeling itself may be observed when we attend to it although they are not apprehended when we do not attend, it follows that the existence of conscious states need not be the same thing as their apprehended character.

It would be easy to pass from this argument to the fashionable theories of the unconscious, and to seek "metaphysical aid" from these murky regions. Yet these monsters had better be left alone. It would take a Jason to tame them, and he had a goddess and a princess on his side. This argument, then, is not intended to suggest anything whatsoever concerning the unconscious or the subconscious, but only to show that it is necessary to distinguish between the apprehension of conscious states and their existence. In the majority of cases, no doubt, this apprehension always occurs as a matter of course, and very probably no conscious state ever exists without being apprehended in some measure. But this circumstance does not annul the distinction, and when the distinction is admitted the suggestion now considered seems tenable.

A view of this kind, indeed, is indicated in some of the most celebrated arguments in the history of philosophy. A

wise man does not profess to understand Kant; for anyone who asserts that Kant meant so-and-so is certain to be accused of misinterpreting that author, and anyone who points out that Kant said so-and-so is bound to have contradictory passages cited against him. There is no culpable imprudence, however, in dwelling upon ideas that may be suggested by Kant's arguments, and most philosophers find this exercise very profitable. Now there is a clear suggestion of the kind we are contemplating at present in the subjective deduction of the categories, and in some other characteristically Kantian doctrines. Thus, if the unity of apperception requires that the manifold be traversed, that there should be reproduction of fleeting representations when any connected object of experience is grasped as a single whole, and that the recognition of this whole must be rendered possible by, and also presupposed in, the two former kinds of synthesis, Kant's argument would seem to imply that there is an intrinsically necessary connection between the moments of discovery and synthesis in all knowledge, since recognition is just the discovery of the result of traversing the manifold and of reproducing the earlier parts of it. More generally, Kant's synthetic unity of apperception appears to be essentially the discovery, by reflection, of the logical unity found in phenomena (*i.e.*, in the products of the organisation of experience through the categories). Indeed, this interpretation seems to be inevitable when read in the light of Kant's further doctrine that the activity of synthesis cannot itself be discovered by reflection or by any variety of intuition, but that it must either be simply postulated or else ascribed to a blind and indispensable faculty of productive imagination.

Be that as it may, the process of cognition in many of its features is reasonably described as synthesis, even in the literal sense of putting together. The active voice often seems to be the right one to use. What is knowledge, for instance, but the process of characterising an object? How can there be com-

parison without bringing objects into conjunction? Sometimes, indeed, it is supposed that even a superficial inquiry into the conditions of knowledge suffices to show that the active voice should always be used. The plain man may possibly believe that he has but to open his eyes in order to find reality revealed to him forthwith, but a very little philosophy shows how sadly he is mistaken. What he falsely supposes to be simple inspection of a perceived object is really, we are told, a very complex reaction to a stimulus. The stimulus only is given, and it leads to an integrated nervous response. Even if the mental response is not identical with the neural, this circumstance brings little comfort to the plain man's advocate. According to the hypothesis of interaction the natural supposition would be that the total neural response determines the mental one. According to the hypothesis of parallelism the most probable explanation would be that some sort of correlate to the bare excitation of the stimulus is given to the mind, and that this correlate is synthesised or sublimated in the total mental response in a manner corresponding to the integrated reaction of the nervous system initiated by the relatively simple stimulus. On either theory, therefore, the "given" element would play a comparatively subordinate part in the total mental reaction, and if the hypotheses of interaction and of parallelism are both discarded in favour of some more refined conception of psycho-physiological solidarity, the consequences would not appear to differ in this particular.

Stated in this form, the argument depends on a very gross confusion between the cause of perception and its object. Even when this confusion is avoided, however, a multitude of considerations points towards constructive synthesis. The facts described as apperception in the text-books of psychology seem to imply that the mind brings an atmosphere with it which modifies, and is modified by, any fresh element apperceived. There is adaptation of an old form to new material, and of old material to a new form. A familiar melody may be recognised

in many keys, and the same hills discerned in mist and sunshine, in the snow of winter and the russet of autumn. Often, indeed, what we call a perceived thing seems to be rather a nucleus of suggestiveness than an apprehended fact. It stirs our memories and emotions, it suggests plans of action, it supplies the impetus towards far-reaching analogies and sweeping generalisations. Universals, again, psychologically regarded, seem to be *foci* controlling a range of constructive possibilities. And if these arguments are not convincing, what explanation can be given of imagination? Images, undoubtedly, are apprehensible objects, but are they not also mental products? The reproductive imagination, perhaps, supplies exceptions. When a memory-image, for example, is said to be reproduced, the fact may be simply that a former percept is directly apprehended in the present. But there is productive imagery as well as reproductive. Gorgons, and hydras and chimeras furnish stock illustrations, and a few sentences from Mr. Conrad, or half a dozen lines from *Love in the Valley* tell the same story.

There is another side to the story, it is true. Even the most creative of artistic works is, in a certain sense, finding. The materials of imaginative construction are derived from sense, as all images are, and "Your setters forth of unexampled themes, Makers of quite new men producing them," are not the most skilful or the most original artists. It does not matter whether Mrs. Crupp had really been a mother herself, or whether she really said that a little brandy was the next best remedy for her complaint, though not so palatable to her as tincture of cardamums mixed with rhubarb and flavoured with seven drops of the essence of cloves. Mrs. Crupp was the quintessence of all landladies. She was all the truer to life, perhaps, because she never existed. Even the conventions of the novelist's craft are subject to the same fundamental condition, as Stevenson's whimsical complaint against the conclusion of *The Little Minister* shows. "*The Little Minister* ought to have

ended badly," he wrote to Mr. Barrie, "we all know it *did*, and we are infinitely grateful to you for the grace and good feeling with which you have lied about it. If you had told the truth, I, for one, could never have forgiven you."

It is plain, however, that if reality can be said to be found or discovered by these methods of imaginative construction, the discovery or finding does not mean literal apprehension. What is constructed is a token or a parable which as a whole, and in certain characteristic details, symbolises reality. Consequently, if all knowledge were of this kind, the reality symbolised by such representative construction could be described only as a control to which the constructive activities of the mind were subject. This control might be more aggressive in sense perception and in logical thinking than in imagery, but it would be required in both cases. None the less, it would be known by its fruits only, for if it were directly apprehended as it is, the admission of this possibility would also be the denial that all knowledge is symbolic construction. The same argument shows that it would be impossible to distinguish, except quite indirectly, between the received and the contributed elements in a symbolic construction of this kind.

On the other hand, equally clearly, the theory that all knowledge is merely symbolic construction is tantamount to the denial of the possibility of knowledge. It would be easy, indeed, to summon the resources of dialectic to torture this heresy with boot and thumbscrews, but it is more humane to proceed to instant execution. Representative knowledge has the same logical basis as any other kind of knowledge by description, and, as we have seen, knowledge by description rests upon knowledge by direct acquaintance, since it presupposes acquaintance with the description (or representative), and with at least some instances of the way in which a description (or representative) actually holds of the objects specified by its means. The attempt to maintain that *all* knowledge is by

description is liable to the objections which dispose, once and for ever, of any theory implying that all knowledge consists merely in correspondence. Some things must be *known* to correspond, and not merely correspond to a correspondence, if the correspondence theory is to work at all.

This result leads to reflections of considerable importance. Creative imagination seems to be indubitably a process of mental synthesis and of mental productiveness. It also claims to reveal truth, and this claim must be admitted. Analysis shows, however, that the acceptance of the claim depends on the fulfilment of certain prerequisites. Neither the existence of the imaginative fabric nor the weaving of it by synthetic processes suffices to constitute any sort or degree of knowledge. The fabric must itself be apprehended; and if it indicates a reality beyond itself, this indication must also be apprehended and based upon the apprehension of cases in which the symbol is apprehended in specific relation with an apprehended thing which it signifies. This analysis may be extended quite generally to all the products of mental synthesis which claim to have a cognitive function, and the inference is very plain. Unless synthetic products always indicate other synthetic products, there is no ground for believing that knowledge is restricted to the apprehension of synthetic products, and if it is possible to prove that knowledge is, in fact, restricted to these products, the proof cannot rest simply upon the character of apprehension. Apprehension is only discerning, and, in so far forth, may be the discerning of anything. The fact that apprehension occurs does not *eo ipso* determine whether the object apprehended is or is not a mental product, whether it is sometimes a mental product and sometimes not, or whether the "putting together" of synthesis is always a "finding together" of non-mental elements which are falsely supposed to be "put together" because of the wide range of the mind in some of its explorations, and because of the rapidity and agility with which it selects the objects of its contemplation. The answer to such

questions must depend wholly upon the characteristics discerned in these contemplated objects.

During the remainder of this discussion an attempt will be made to consider some of the most general arguments which purport to prove that the conditions of possible experience, as revealed by analysis of the objects *de facto* apprehended, imply mental synthesis. The problems so arising are sometimes most conveniently treated in connexion with the question whether all the objects of mind are, in some degree at least, mental products, and there is no serious danger of ambiguity in raising the question in this form when that course is convenient. It is true that there might be mental products which are not the results of synthesis in the current sense, but, on the other hand, any object which implies synthetic construction is therefore a mental product, and all the objects which fall for consideration in these arguments are alleged to imply synthesis, and to be mental products on that account. Conversely, if any objects can be shown to be possibly non-mental, these objects cannot be synthetic constructions.

Some explanation of the term "mental product" is required, however, as a preliminary to this investigation. "Product" is often distinguished from process, and regarded as a finished article removed from the workshop. This conception, it is plain, will not fit the facts of cognition on any intelligible hypothesis. Even if the synthetic process is always hidden from the mind, the process itself must always be guided by apprehension of the object at every stage of its development. The workman may not know how he works, but he must perceive the imprint of his hammer at every blow. Accordingly, the products in question cannot always be finished articles. To call them products merely implies that they are apprehended. To call them mental, again, need not imply the *cul-de-sac* of subjective idealism. They need not be the products of a finite mind. If they are indeed the results of synthesis, this synthesis need not be supposed to be a sort of cottage industry

that lets the great world go by. Nothing in general theory (though much in the detail of many of the arguments used) stands in the way of the hypothesis that all cognitive synthesis is the movement of a cosmic machinery, however fragmentary and subjective the results may appear to be.

These explanations may help to remove the suspicion that a considerable part of this discussion deals with effigies only. In any case it is necessary to proceed, and the brief statement of a very familiar line of argument is, perhaps, the best introduction to the problems which have been indicated. The objects of apprehension (so this argument runs) always imply constructive synthesis. Without synthesis, an object would be identical with the given, and the given is either an unrelated unit or a mere conjunction. The denial of synthesis, then, involves a palpable absurdity, since an object must have unity or meaning to be apprehensible at all. Synthesis, then, is a precondition of the possibility of apprehension, and apprehension, in its turn, is a species of consciousness, and not a residuum of bare consciousness in the presence of meaningless data. Moreover, consciousness implies self-consciousness. The unifying synthesis of the self as a whole (or, at least, of the cognitive self) is written on all apprehended objects, and these objects, accordingly, have an altogether unique form.

Each step in this elaborate argument needs critical consideration.

The first step depends upon an arbitrary restriction of the given which has already been criticised in passing. This restriction, in a word, is a mere *petitio*. Anything which is apprehended is therefore given. If it were not, a transcendental proof, like the one now considered would be meaningless, since the proof states that synthesis must be admitted, because objects are always given as unities. There is no need, then, to interpret the given as mere immediacy, or as a punctual unit without a context, or as a primitive shock of feeling of the kind which some ultra-traducian might ascribe to the soul of a

pre-Adamite embryo. To argue that the given must be pre-relational identifies it, in the first place, with the hypothetical presentations of a rudimentary mind, and implies, in the second place, that the development of cognition consists in separating and reconstructing this raw material. This second implication clearly begs the question, and the first is not a consequence of the continuity of development. Even if development, *per impossibile*, implied preformation, it is surely just as legitimate to argue from the later to the earlier as to follow the reverse order. It is also much less speculative.

The argument that the given must be unrelated begs the question just as dogmatically. Its plausibility, if it has any, is due to the peculiar haze, half cloud and half halo, with which so many philosophers have chosen to enshroud relations. In terms of these misty speculations, relations are supposed to be the work of the mind in some peculiar and distinctive sense, so that they are either superadded to things by the mind—and how could a thing have any meaning without relations?—or else there are no things at all, and the whole universe, to choose the least sceptical alternative, is God's way of relating a relationless manifold, with or without our co-operation, and with or without a recalcitrant hull of contingency in the manifold itself. An exception, it is true, is sometimes made, grudgingly and inconsistently, in favour of some relations, and in accordance with this concession certain relations of spatio-temporal conjunction, and the analytic relations in which the predicate is either contained in the subject or identical with it, are admitted to be merely given to the mind. This concession, however, is as valueless as it is intended to be, since the former type of relation can yield nothing more adequate than a dead associationism, and the latter, on the most favourable interpretation, is the basis of a barren logistic only.

On these assumptions, it is inevitable to conclude that any unity other than a merely analytic one or than a unity of mere conjunction (if that be worthy of the dignified name of unity)

is due to the synthetic activity of the mind, but the fundamental premiss that relations are peculiarly mental does not seem capable of withstanding criticism. How can there be any good reason for discriminating between terms and relations in respect of givenness, objectivity or the influence of the mind? Logically regarded, relations are as incorrigibly objective as any of the other constituents of a proposition. Psychologically regarded, they are discovered through the process of comparison, and the results of comparison must surely be accepted in precisely the same sense as the terms compared. To say that relations are elicited does not change the issue. Relations are elicited because they are found, and the problem is not appreciably affected when the relations holding of a long series of terms are considered instead of those discovered in comparing a few terms. Indeed, the only reason why relations should even appear not to be given seems to be the freedom of the mind in selecting objects for comparison. This freedom of selection, however (as the pragmatists persistently neglect to notice), implies no sort or degree of freedom once the selection has been made. Thus neither logic nor psychology warrants the ascription of a specifically mental status to relations. Before and after, right and left, are presented with the same objectivity as blue or sweet; equality is contemplated by the mind in precisely the same sense as number; and if moral superiority is constructed by the mind, so is the quality of righteousness.

If, then, relations may be given as well as terms, there is no good ground for denying that complexes of related terms (*i.e.*, unities) may also be given, and this result leads to the second step in the transcendental argument under consideration. Granting that the mind, *de facto*, is always confronted with a unity and with meaning, what can be inferred from this circumstance?

A moment's reflection shows that one line of argument, not infrequently used, must be abandoned altogether. On the surface it is plausible to contend that although the discovery of

a unity proves nothing except that a unity has been found, still this unity must have been put together, and that the construction of it is the essence of any cognitive process. It is clear, however, that this argument has no weight at all. To say that a unity cannot be, unless it has been made, has no better warrant than the more general statement that nothing can be, unless it has been made; and even the most simple-minded country parson would hesitate to use this argument in his expositions of the Book of Genesis. This argument must, therefore, be put in a more defensible form, and would probably be changed into the more moderate doctrine that any unity which we discover has, in fact, been made by us.

Even the most impersonal presentation of the most abstract arguments, we may be told, always shows unmistakeable traces of a finite personality. John Bernoulli, according to the story,* recognised "the lion by his claws" when he saw Newton's unsigned solution of a mathematical problem, and this adaptation of the maxim "*ex ungue leonem*" may be extended in principle to all apprehended objects. Personal idiosyncrasies pervade the most impersonal discoveries, and we are forced to conclude that any unity apprehended is tinged at some point or in some degree with the reflection of a finite personality. The matter of fact, of course, is manifest in perception and imagination. This illustration, we may be told, shows that it is also manifest in the apprehension of universals. No doubt, the way in which this tang of personality may be recognised in any given instance is another matter. Sometimes it appears in illustrations and analogies, sometimes in a trick of phrase. Among mathematicians it may be seen, let us say, in the preference for a geometrical proof where other proofs are possible, and some lions may be recognised by their claws because there may be only one lion alive at the time whose claws could reach so far and grasp so tenaciously. But some

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* Cf. Lynch, *Proc. Arist. Soc.*, 1917-18, p. 597 n.

clues to its recognition are always present, whatever these clues may be.

The detailed mention of these clues, however, seems to give the case away. In such cases it ought not to be difficult to discriminate between the personal and the impersonal elements in the object as a whole. Bernouilli, we may reasonably assume, could have done so in this particular instance, and it is permissible to suggest, on the lines of previous argument, that such discrimination is not impossible even in the case of perceived wholes, or in the riotous extravaganzas of a Bacchantic imagination. Of course, the admission that some apprehended wholes, or some discernible parts of these, are impersonal, does not show of itself that they are non-mental or non-spiritual. The point is that from the premiss that the object of apprehension is always a unity nothing whatever can be inferred concerning the important question whether such objects are or are not always the products of synthesis, always mental, always non-mental, or sometimes the one and sometimes the other. The principle of the contrary thesis merely assumes the point in dispute. If, *e.g.*, any unity is therefore a spiritual unity, or any logical connexion "continuous with mind" (whatever that may mean), then *cadit questio*. The only perplexing circumstance in the case would be the odd language which uses one and the same expression to describe both the connexions of a logical system, and these curious little centres of whims, dreams, and anxieties which we call minds. However that may be, it is needless to pursue the argument. The question has been settled in advance—by definition—and it may be left thus defined.

The reference to "meaning," however, is very important, and requires detailed discussion. Sometimes, it is true, when "meaning" is mentioned, unity seems to be meant. These two, however, are not the same. Unity is just unity. There is unity in a potato, and, what is more, organic unity; but such unity is not meaning. Meaning, properly speaking, implies the

relation of sign to thing signified, and the apprehension of meaning implies the recognition that a sign is a sign. Accordingly, when it is said that the object of apprehension is always a meaning or always contains meaning a somewhat intricate analysis of the relation of sign to thing signified is required before the value of the argument can be duly appraised.

What, then, is this relation? A sign, of course, stands for, or represents, the thing it signifies; but that is only repeating the same tale in different words. It is no explanation. A more helpful suggestion is that a sign is always some sort of equivalent for the thing it signifies. This equivalence is not merely the fact of substitution, but also, and more importantly, the condition which makes substitution legitimate. The ultimate condition in the case is that a part of a related complex is the equivalent of the whole complex.

It does not seem possible to carry this analysis further, at any rate so long as the mind is left out of account. In particular, the equivalence in question varies so much in different cases that the attempt to define it, so to speak, in less skeletal terms, is bound to fail. A sign, it is true, may resemble the thing it signifies, as when a statue resembles its original or the opening bars of a melody resemble the whole melody. Such resemblance is agreement, partly in sensuous detail, partly in type of relationship. Again, the equivalence between sign and thing signified may be distinctly logical. A universal, for example, is the equivalent of a host of particulars, and may be taken as their representative. These two cases have, perhaps, more in common than the very general relation of whole and part, but it is hard to see how this additional common element, if there is one, could belong to the most familiar kind of significant equivalents, *i.e.*, words. Even if it be granted that grammatical relationships often throw light on logical connexion (and a teacher of logic can scarcely deny the fact despite the abuse this admission brings on his head), words themselves do not usually resemble the things they signify

either logically or by onomatopoeia. The magnificent polysyllables Theophrastus Bombast von Hohenheim (or even their Latin equivalent Paracelsus) may, indeed, seem appropriate to some of the speculations commonly ascribed to that celebrated alchemist. But that is an accident of association, and the sound America does not resemble a continent any more than the sound Vespucci. Its significance is learned in a complex of mere temporal conjunction. The sound "America" is heard when the continent is thought of, and is subsequently used as an equivalent for the continent, subject to the conditions of linguistic convention.

These explanations may seem to be little more than elaborate admissions that it is absurd to try to analyse meaning without reference to the mind; and that conclusion, in its turn, appears to be tolerably obvious of itself. Nothing more than common sense is needed to show that things are what they are. And what they are is never what they signify. Signs are necessarily for a mind, and with the admission of this truism common sense seems to be delivered into the hands of the idealists. For everything apprehended has a meaning, nay, is a meaning. If, then, a meaning must be for a mind, everything apprehended or apprehensible must be for a mind, and anything not apprehensible is nothing in relation to us.

Since this conclusion is important, it is worth while pursuing the analysis of meaning with a view to discovering whether it is logically impossible to maintain that a non-mental object may be discovered as it is in itself, granting the premises that meaning is only for a mind, and that nothing can be apprehended unless it has meaning.

How does the mind enter into meaning? The simplest answer to this question would appear to be that meaning is always an affair of suggestion, and that suggestibility is plainly an exclusively mental attribute. This answer, however, even if it be accepted so far as it goes, does not tell in favour of idealism. The answer states that an object X has meaning

when and only when it suggests another object Y. In that case, the assertion that X is apprehended as having the meaning Y is another way of saying that the mind, because it apprehends X, is led to apprehend Y also. This statement clearly does not imply that neither X nor Y is apprehended. On the contrary, it expressly admits that they are apprehended, and promulgates, in addition, a psychological law of the mind to the effect that the thought of X leads to the thought of Y. How, then, is there any difference in principle when the further consideration is adduced that no object is ever apprehended in isolation, but always with a meaning? This consideration is equivalent to the statement that whatever is apprehended is apprehended along with something else which it suggests. In any given instance, therefore, the total object of apprehension is never X *simpliciter* but X-along-with-Y or along-with-Z, or along with anything else which X may signify in some particular context. The facts so stated surely do not imply that neither X, nor Y, nor Z is apprehended, or that X, Y, and Z must be mental, any more than in the former case. It follows that if meaning is interpreted as the fact of psychological suggestion, it must be for a mind, and yet the idealistic conclusion is not a consequence.

This argument may seem to need qualification in three respects. In the first place, when signs are explicitly apprehended it is comparatively rare for the things they signify to be apprehended also. Plainly, if this were not so, the use of signs, instead of being convenient would be only a luxury. The sign, as we have seen, is an equivalent for the whole complex of which it is part. If, then, it suggested the whole complex with the same explicitness as its explicit self, there would be no advantage in the use of signs. And it is clear that the objects before the mind are often nothing but symbols. Mathematical symbols, for example, may be capable of translation into terms, let us say, of pure logic; and the power of making this translation, in some degree at least, may be admitted to be

a precondition of any mathematical reasoning. But in the detail of the reasoning the symbols are often considered for their own sakes, and only the result is translated, if, indeed, it is translated at all. Similarly, pounds, shillings, and pence are symbols of very complicated economic conditions, but although a grocer attends to these symbols when he counts the change for a customer, it can scarcely be contended that he apprehends these economic conditions at the time he is counting the change, even to the extent to which he would understand them if he gave his mind to the problem.

Even Hume, thorough-going associationist as he was, did not maintain that the function of a sign consists in the full re-statement of an associated presentation. The kernel of his theory was that significance consists in the tendency to recall or to arouse various groups or trains of associated presentations under varying conditions, and that the facts of the case are best appreciated when all these dispositions are baulked by the use of signs in some wholly impossible or wholly strange connexion. On this theory, meaning would be a kind of incipient suggestion; and this view certainly comes nearer to the psychological facts. When we see a huntsman taking a fence, and say, "There's another," it is not necessary that any other scarlet-coated figure should be presented to our minds than the one we perceive at the moment. All that we may apprehend is a solitary figure together with the knowledge that this figure is a member of a series. It is true that there always is a tendency to recall the earlier members of a series, and that, in all probability, we should recall them if we let our minds linger on the matter. But frequently we do not do so.

The facts in these and similar cases are, on the whole, adequately described in the elaborate accounts of the "fringe" of consciousness which have now become so familiar. The thought of a speaker, for instance, whether on the platform or in ordinary conversation, usually runs ahead of the words he uses. He has a schematic apprehension of the form or plan of

the things and concepts which he intends to indicate during the course of his remarks, but the plan which he follows is not apprehended in specific detail, even in the way of imagery. It may, indeed, be so schematic, so general in a pre-logical sense, that it can scarcely be described at all. In these cases, as on Hume's theory, the nature of the facts is best appreciated when the mind's comprehension of the plan is balked or suddenly diverted, and this phenomenon is seen most clearly in the sudden and unexpected contrasts which belong to the essence of every witticism. There is some comfort in the reflection that psychologists have so much to learn from the helpless perplexity and the mechanical smile of the solemn man who has unintentionally said something funny; and the correlative circumstance that a joke is always spoiled when it is explained may be a solace to those who are not psychologists.

These facts are very important for descriptive psychology, but they do not affect the epistemological argument under discussion. They show that four possible cases arise. In the first place, when *X* means *Y*, *X* and *Y* may both be apprehended explicitly. In the second place, *X* may be apprehended explicitly and *Y* schematically. In the third place, *Y* may not be apprehended at all, and the total object of apprehension may be *X* together with the relation which would be seen to specify *Y*, if *Y* were apprehended. In the fourth place, *X* might possibly be apprehended by itself. In this last case *X* might have some meaning, though not a *Y*-meaning; but this case may be dismissed since a sign considered without any reference to its significance is only a sign potentially. The other cases all occur, the second being most usual. None of them, however supports the idealist's case. The form of an object, or of a series of objects, has the same status, epistemologically, as the details; and a relation apprehended without the term which it signifies, is apprehended in the same sense as occurs when the term which it signifies is also given.

The second qualification which may be supposed to be

necessary does not need more than the briefest possible mention. Signs, it is said, are usually neglected in favour of what they signify. The printed marks on a page, for instance, cease to be significant (and, indeed, look very odd) when we turn our attention to their specific form or shape. These facts, however, introduce no fresh complication of principle. If it could be contended that these neglected signs are not apprehended at all, it is clear that this contingency would be the precise converse of the third case mentioned above. Instead of X being given together with its specifying relation and without Y, we should be given Y as specified by a certain relation and without X. A neglected sign, on the other hand, cannot be neglected so utterly that it is not apprehended at all, and consequently the case mentioned is really the precise converse of the second possibility considered in the preceding paragraph. From the epistemological standpoint the same arguments apply to the converse of any of the foregoing possibilities as to the convertend.

The third qualification sometimes adduced appears to be more important than the others. An illustration will show what is meant. Suppose, for instance (as in Pawlow's experiments), that the flow of a dog's saliva increases when he hears the sound of a dinner-gong. It is possible, of course, that a satisfactory explanation of this reaction might be given in merely neural terms, but it is much more likely that the sound of the gong, after much experience, leads the dog, as we say, to think of his dinner, and that the thought of the dinner makes the dog's mouth water. It does not follow, however, that in this case the dog recognises the sound of the gong to be a sign of his dinner. The process might be one of simple suggestion without recognition of meaning. The sound, in other words, need not be a sign of dinner to the dog, merely because it suggests dinner to him. The sound *means* dinner only if the dog consciously apprehends it as a sign.

It is necessary, then, to distinguish carefully between the

suggestiveness of a sign, and the logical conditions of the use of signs. The mere fact that the mind is led to pass from one particular object to another is not by itself signification. Significance also implies that the sign must be apprehended as being the equivalent, in some respect, of the thing it signifies. Nothing is used as a sign unless this equivalence is recognised. But if a sign is recognised as an equivalent, it must really be an equivalent, and the recognition of anything for what it is cannot alter it. Thus the fact that a sign must be recognised as such does not affect the theory of apprehension in principle.

These inquiries point definitely to a conclusion which may be stated briefly as follows: The general analysis of the form and structure of the objects of consciousness does not show that such objects must be mental products either because they are unities or because they have meaning. Productive synthesis, therefore, is not necessarily a precondition of the possibility of knowledge. If, and so far as, synthesis is implied, this synthesis appears to mean connexion on the side of the object, and to mean on the side of the mind such faculties as selection, memory, and the like, which are implied in the apprehension of a connected complex. Mental apprehension always takes place under temporal conditions, and there are also spatial restrictions to be considered in sense perception and (derivatively) in imaging. It is not surprising, therefore, that the object *de facto* before the mind in any given instance should always have a peculiar and, it may be, a personal form. As we have seen, this may even be the case with regard to the apprehension of universals in a logically ordered series, although, in this instance, the spatio-temporal limitations of the mind are at a minimum. Arguments based on these considerations, however, are always consistent with the theory that such series really are objective, that the members in the series may be discriminated in and for themselves, although they may not be apprehensible in isolation, and that the "advance of the personal" into this domain can itself be discerned and allowed

for. Sometimes, indeed, it may be very difficult to discount the personal equation, and quite impossible to eliminate it, but the frankest possible admission of this type of difficulty cannot prove that it is always insuperable. Similar arguments apply to any impersonal mental equation which may be shown to be relevant.

Speaking generally, the most that could conceivably be proved by arguments of this kind is that the mind is always restricted to the discovery of a certain type of objective fact, that there may be unknowable types of objectivity, and that there is a danger of *suggestio falsi* in all thinking since we say unhesitatingly that reality is so-and-so when, perhaps, we ought to say only that the fragment of reality which is discoverable is so-and-so. If, however, any single connexion can be truly discovered, there need not be any *suggestio falsi* in accepting the discovery, and the unknowable is harmless provided that it does not logically affect the known. On any theory the mind cannot grasp more than is revealed to it. It has to take what it can find. The important question is whether it ought to be so diffident as either to accept nothing, or else to make its acceptance always subject to unknown qualifications. The above argument has striven to show that neither of these courses is logically required.

If these contentions are sound, it is plain that they are not affected in principle by any proof based upon the complexity, in fact, of all apprehended objects. Thus, even if all consciousness is self-consciousness, in the sense that all the categories are somehow present as a unity in all apprehended objects, there is no need to modify these arguments, and with this explanation we may pass to some further considerations.

These reflections are not presented as proofs that any of the objects of mind are not mental. They are only intended to disprove some of the arguments which contend that these objects must be mental, or must be synthetic products. As a matter of course, then, they should not be taken to imply the

more radical doctrine that no objects contemplated are mental products, and it seems to be plain that some objects at least (*e.g.*, some images) are mental products, and that they are woven together in a loom of most psychological synthesis. It is necessary, however, to safeguard the views stated above from some of the consequences which are falsely supposed to follow from this admission, and especially from those consequences which are deduced from the function of images in thinking. In many accounts of the thinking process images are supposed to be all-important. Some well-known arguments, indeed, would seem to imply, if they were explicitly stated in their extreme form, that the existence of representative images is *eo ipso* thinking, and that the organisation of these images in respect of their logical content is either the whole or the essence of any piece of knowledge. This doctrine deserves somewhat closer consideration than it has already received in this discussion.

The previous argument, it is true, has revealed many vulnerable joints in its armour. In the first place, it is impossible that all knowledge could consist in the manipulation of representative signs, since the basis of significance is the fact that a sign really is, and really is known to be, an equivalent for the thing signified; and although the thing signified may not appear directly before the mind in many thinking processes, it must be directly apprehended in some cases if it is ever possible to know that any sign is significant. In the second place, as has been abundantly shown, the mere existence of an image which is, in certain respects, the equivalent of a percept or of a universal, is not identical either with the apprehension of this image or with the recognition of its significance, even granting that images are entities wholly mental, and that they cannot exist without *also* being apprehended. In addition to these general arguments, however, which apply to all knowable objects, some more specific arguments seem to be required with regard to images and to their cognitive function.

An image is most literally the equivalent of a percept, since it has the same sort of stuff in it and the same sort of form. This literal equivalence, indeed, is so marked as to suggest strongly that many so-called images, particularly memory-images, are really percepts cut off from the moorings in which they were originally apprehended, and with some of their characteristics neglected or forgotten. Such a theory, however, will not account for many imaginative constructions, and it may be granted that we produce images as well as find them. There is no contradiction in this. We produce sounds as well as hear them. Indeed, we hear them the better if we are also able to produce them, and these facts of perception may be extended to imagery. We may, for example, produce coloured shapes as well as see them in visual perception, even granting (as is by no means certain) that the same bodily organ would have to perform both functions in this case, whereas different bodily organs were employed in the former instance. However that may be, the more important question concerning images is that of their place and function in conceptual thinking. According to the accepted descriptions, imagery, in some form, usually, and perhaps always, accompanies thinking (which is another way of saying that whenever we think of universals we also think of images). This fact can scarcely be an accident, and there is good ground for believing that the apprehension of a particular image guides us in the apprehension of a specific universal or set of universals, and that we tend reciprocally to produce or to discover anew this or the other image whenever we think of some determinate universal.

The question of greatest moment, however, is whether universality consists in a certain use, or function, or aspect of imagery. If that were so, the whole range of cognition would be affected, since all meaning, even in sense perception, has a universal reference. It is sometimes supposed, then, that universals are abstractions from images, apparently in the sense that they are literally extracted from the images, and this view,

though seldom explicitly maintained nowadays, has still considerable influence in attenuated forms. It is necessary to point out, therefore, that this psychological feat is utterly impossible except, perhaps, in a few insignificant cases, and that, if it could be performed, it would have no logical importance. The fact surely is that this process of desiccating or etherealising the particular is totally irrelevant to the problem of the relation between universal and particular. A part of a particular is just as particular as the whole particular from which it is extracted, and the most concrete object may signify just as well as the most disembowelled of images. It need not be imaged snow that represents purity, or imaged stars that represent sublimity, or an imaged grocer that represents "an availability" and the laws of economic demand. The snow that covers the fields, the stars that guide the mariner, and the whiskered and aproned grocer are just as efficient representatives. If this be disputed, it is well to remember that printed words are not images, that spoken words are actually heard and that what is mistakenly called "verbal imagery" is actually articulated. No doubt, in the order of origin, the apprehension of the same thing in different contexts is needed before the explicit apprehension of universals becomes possible, but even if some amalgam or residuum of the original percepts came to form an image, this product would have no particular importance. The blending of all colours would presumably result in a dirty white, but dirty white, imaged or perceived, is not a more fitting representative of the universal "colour" than a corona, or a rainbow, or the purple shadows on the Lake of Geneva.

Thus, even if it be true, that no thinking and no apprehension takes place without imagery, it is simply not the fact that imagery is intrinsically required for thinking, still less that all thinking and all apprehending is a manipulation, or a function, or an aspect, of imagery. The phrase "connexion of content" is somewhat misleading in the literature on this subject. The

"content" of a presentation, one would suppose, is just the totality of its parts. If the presentation, then, is particular, so are its parts, and the concrete parts of a particular presentation are related to universals in the same way as the whole presentation. The universal itself is never contained in the particular although it seems to be true that no universal is apprehended except in relation to, or at least along with, some particular, and that no particular is apprehended without relation to a universal. Of course, universals are "contents" in the sense that they are apprehended, but nothing in the above analysis suggests that they are mental contents or produced by the mind. Mistaken views are very likely to arise, however, if the "contents" which are relevant to thinking are always supposed to be images, for then it is plausible to argue that the "contents" are both particular and universal, both concrete and abstract, both subjective and objective, and to interpret them in any one of these aspects as convenience serves.

Universality, then, is not so blended with imagery that the former is in any way logically dependent on the latter, and the supposed mental status of images or of the products of synthetic imagination is relevant only to some of the problems of knowledge and not to the whole range of cognition through universals. Many idealistic arguments concerning universals, however, would seem, ultimately, to be independent of this assumption (even granting that the statements of them have an illogical preference for illustrations culled from imagery), and some of these arguments, if they could be accepted, would certainly prove that knowledge is primarily synthesis. The most important argument of this kind runs somewhat as follows. Careful reflection shows that what we call the knowledge of an object is really a process of synthesis, and ultimately nothing else. For apprehension always takes place through universals, and all universals are dynamic. A universal is a *nisus* towards all-inclusive unity, and it exists in virtue of its participation in the active self-maintenance of reality as a

whole. To be known is just to be incorporated in this effort of the universal.

This argument is frequently stated as if it were a plain description of human experience in knowledge, or at any rate a description of that experience taken at its highest stretch. It is doubtful, however, whether this claim to be simply descriptive would ever be made if the argument were not also supposed to rest securely on an unassailable basis of metaphysics. Certainly, most presentations of the theory invoke metaphysical support, and would be impotent without the assumptions that knowledge and its objects must ultimately be the same thing differently regarded, and that reality must be a whole of Experience, metaphysically perfect, in which cognitive experience has a place simply and solely because the whole of Experience requires this part as a necessary constituent of its being. These assumptions have been denied, either expressly or by implication, during the whole discussion in this paper, and they cannot now be accepted. Criticism, therefore, seems out of place, and a *via media* unattainable. Some doctrines must remain permanently in opposition, and the only feasible course is to try to discover how much and in what way an alternative theory is able to accept this alleged description of the facts.

Here it is possible to offer a suggestion at least. The facts described as a *nisus* towards unity, or a craving for completeness may be simply facts of the mind. There can be no doubt that the desire for the progressive discovery of unity in things is the principal impulse of many minds in many inquiries, and this desire, speaking generally, is satisfied more than sufficiently to prevent its death from inanition, and is never sated unless through weariness or incapacity. The desire, however, should not crave for a greater degree of unity than actually prevails, and although no limits can be set in advance to the extent and to the intimacy of this unity, it is plain that the attempt to discover unity ought to be subject to the conditions that no

relevant fact which has been discovered dare be neglected, even if it does not tally with some preconceived scheme of unity, and that nothing must be introduced into the object apprehended which does not belong to that object. It is not the making of a unity that matters, but the finding of the unity which is present, in whatever measure it is present. It is beyond question that the facts apprehended have some unity. They must have logical unity at least; and, although this is more doubtful, they appear also to have a unity which is more than merely logical. The goal of the mind in scientific and philosophical researches is the discovery of unity, and particularly the unity of ordered series, because it is only through this type of discovery that the mind can grasp a multitude of particulars, and thus obtain a sense of power in its comprehension of phenomena. From this standpoint, it is irrelevant whether the unity of series is as important in reality as it is for thought. It is enough if any unity is actually discovered, for in that case the mind really has discovered a truth, and its sense of power has a genuine basis in so far forth. Thus the movement of the mind, when it is intent upon knowledge, is through universals, and the mind, when apprehending universals, has always a tendency to think of the particulars of which they hold; indeed, these particulars often seem to surge before it as if the universal itself summoned and maintained them. This last description, however, is only metaphorical, and need not be interpreted otherwise than as a fact of psychology, whether that psychology be individual or super-individual. The thought of the universal may crave, summon, or maintain the thoughts of particulars, but the universal itself neither craves, summons, nor maintains. It simply holds. And the particulars, for their part, crave only in the case in which they happen to be cravings. Since they exist, they do not also require to be maintained.

I have set myself a very limited aim in this paper. Instead of trying to establish a definite set of conclusions by a chain of

consecutive reasoning I have attempted the less ambitious task of stating and considering some of the most important arguments which seem to me to be relevant to the issue, and to suggest conclusions on some particular points. A formal summary of the discussion is therefore less necessary than in most philosophical essays, and I do not propose to give one. It will be better, I think, if, greatly daring, I state my own private opinion, not because I claim to have established its truth or because I feel no diffidence concerning it, but because I am certain to have assumed it frequently in unsuspected places, and because an explanation of this kind may help to make my mistakes clearer to others, and so may be of some little service.

I have tried to show that knowledge cannot consist of synthesis and nothing else, that it cannot be divided into synthetic and non-synthetic varieties in terms of the current psychological divisions into perceiving, imagining and the like, and that the suggestion that all knowledge contains synthetic and receptive elements blended together in indissoluble union is not helpful. These results, if they are correct, limit the issue very much, and they tend, *pro tanto*, to support the view that knowledge consists in direct apprehension or discovery of the given. One possible way of interpreting this thesis was considered at an early stage of this discussion. The suggestion there considered was that all the activities of the cognitive mind (and therefore all cognitive syntheses) are merely instrumental to simple discovery or direct inspection. It seemed possible to defend this thesis, though with difficulty, against some of the objections which might be brought against it; and the problem was left there. Subsequent discussion, however, showed abundantly that if the activities of the mind are instrumental to discovery their instrumentality cannot be limited to attentive adjustment with a view to mere inspection. There are symbolic constructions relevant to knowledge.

The clearest example is the case of words. The intelligent

construction of a sentence may fairly be said to be due to mental activity although words themselves are physical noises produced by physical means. No doubt we have to find the right words (if we can) to express our meaning, but it would scarcely be enlightening to argue that the words in every poem, and every scientific treatise, and every remark made by a patient in delirium, are merely found, or that they are merely selections from infinite pre-existing combination of sounds. Some constructions, then, are instrumental to some thinking, and the principles implied in the analysis of thinking aided by the use of words also hold good, *mutatis mutandis*, for thinking aided by other symbolic constructions.

It is true that much that is called synthesis may be simple finding. The discovery of logical relations, for example, need not be otherwise interpreted in most instances. On the other hand, many symbolic constructions seem to be literally put together by the mind, or by the body directed by the mind. When that occurs the mind must directly apprehend what it has put together. Sometimes it rests there, as, for example, when we apprehend a mathematical construction without considering its further reference, or treat a romance as a simple narrative. But the importance of symbolic construction for knowledge (as distinct from the interest or beauty of such constructions) consists in the fact that the construction signifies something beyond itself. The objects so indicated may or may not be themselves directly apprehensible. When they are not directly apprehensible they can be known through their representatives only, and in that case it is better to keep to the constructions so far as possible, and not even to infer corresponding entities. On the other hand, this indirect knowledge through representative constructions logically requires that the significance of representation itself should be based upon direct acquaintance with sign, thing signified, and their relation.

In principle, there may be direct acquaintance with any finite

entity, mental or non-mental, universal or particular, and if any finite entity, in point of fact, cannot be directly apprehended in and for itself, the reason does not lie in the intrinsic incapacity of knowledge. Infinites, it is true, cannot be directly apprehended, but the universals which define them may be. The principal difficulties in the whole subject arise from three circumstances. In the first place, the total object before the mind at any time is very complex, and the discovery of any objective characteristic must consist in a process of discrimination within this complexity. In the second place, the discovery of non-mental characteristics is complicated by the circumstance that there are grounds for believing that certain mental products always form part of the total object before the mind at any time, and that the discrimination of mental from non-mental is always difficult and sometimes impossible. The so-called "tertiary qualities," and some of the facts of perception already cited, are good illustrations. This type of difficulty, I have argued, is not insuperable in all cases, either with regard to all sensible qualities or to all universals. In the third place, it is possible that some representative constructions (*e.g.*, words) are always part of the total fact presented to the mind. If so, the representative and the non-representative parts of this fact must be discriminated one from the other, and this should not be impossible since the mind is directly acquainted with both.