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AN ABSOLUTE LOGICAL CRITERION.

CONTENTS.

INTRODUCTION.

The content of the present treatise may, in its broadest outline, be stated as follows. First of all it must be pointed out that the "criterion" of which the title makes mention, is not a criterion of truth, but a differentia of the scope of Logic or of Theoretic Science (a designation which is meant to include Mathematics). This test will be found to be none other than the time-honoured transcendental contradiction which, thanks to Russell's researches in connection with his Theory of Logical Types, we are able to define exactly by the symbol $\phi(\hat{\phi}x)$. The last two chapters, VI and VII will be devoted to a systematic exposition of this test. Now the transcendental argument has been by nobody more consistently exploited than by Hegel. Hence in Chapter V we shall attempt a detailed examination of the Dialectic Method considered, however, purely as a logical argument. But the conception of an absolute criterion has not generally been restricted in this purely theoretic sense. Idealists see in it either what they call a "logical" question, or a metaphysical problem standing in close connection with the notion of the "whole". That leads us in Chapter I to examine the substantive content of the metaphysical whole especially as outlined by Bosanquet in his "Principle of Individuality and Value", and in Chapter II to analyse its "formal" structure, in connection with Bradley's "Appearance and Reality". Chapter II will thus strictly speaking, not contain a metaphysical discussion. But, since our criterion is said to be absolute, it is very necessary to be quite clear as to what theoretically we mean by "absolute", and this notion is best studied in Bradley's work. Royce has given the lead in this line of enquiry by his theory according to which the absolute is a

self-representative system, a theory of which we shall take advantage. Then there remain Chapters III and IV comprising Part II, which although mentioned last, we consider by no means the least important. They are devoted to explaining, that what Idealists usually call Logic and sometimes "Metaphysical Logic" is better described as Phenomenology. We are confirmed in this view by the very careful analysis which Prof. E. Husserl, of Göttingen has given of the subject-matter of this Science - (to whom of course we also owe the name). It will then be necessary to justify the scientific claims of Phenomenology both in the face of Psychology and of Modern Realism (as represented, e.g. by Russell), and to assign to each of the latter its proper sphere. As regards Realism in particular (perhaps the most promising of modern philosophical tendencies), it will appear that what passes under this name is at bottom identical with the Theory of Objectivity, a science whose fundamental principles have been most clearly defined by Meinong. But although Husserl's analyses give us to a precise view of the sphere of Phenomenology, we believe he has by no means said the last word on the subject. The limitations of his standpoint lie in his analytical method. His treatment lacks a criterion for valuating the results of phenomenological analysis from a synthetic point of view. This defect is signally made good by Bosanquet in the treatment which he accords to this very same subject-matter in his Logic, though at the expense of unduly pushing the analytic method into the background.

PART I.

ANENT METAPHYSICS.

Chapter I.

The Substantive Whole.

"Logic coincides with Metaphysics, the science of things set and held in thoughts, - thoughts accredited able to express the essential reality of things." (Hegel)[1].

"Mr. Bradley's conception of Reality rests on two assumptions:
(1) The formal principle, that reality is non-contradictory;
(2) The material principle, that reality is sentient experience."[2]

In holding that its Exposition is a Metaphysic and a Logic in one, Modern Idealism remains true to the tradition reaching back to its founder. The difference is that whereas Hegel conceived it the business of Logic to prove itself to be at the same time a Metaphysic, Modern Idealism on the whole assigns to Metaphysic the task of showing wherein consists the kinship of Logic with it. Of these two standpoints, the modern is undoubtedly the sounder. For Metaphysic being a science of a higher order, and comprehending Logic under it, must take cognizance of the latter, whereas Logic being of a lower order and essentially limited in its field of operation, can give no account of the former.

Now, the enquiry on which we are about to enter does not belong to the province of Metaphysic. We, therefore, do not feel ourselves called upon either to prove or disprove the ultimate unity of all knowledge, and the ultimate unity of all reality. But what we do maintain is, that every special science, theoretic and real, has a right to pursue its own investigations, independent of all metaphysical considerations and assumptions whatsoever. This contention is obviously true in the case of Logic. Metaphysic, it is conceded, must embody some logical

1. Encyclopaedia, transl. by Wallace, p.45.
2. Hoernlé, in Mind, N.S., 14, p.308.

principle or principles. But the testing of the specifically logical validity of these principles is a task which Logic cannot delegate to any other science, Metaphysic included, but which it must undertake itself. The purely theoretic aspects of metaphysical questions, are matters solely for the theoretic expert and specialist. So it is everywhere: The course of conduct, for instance, which is from a medical point of view the best for a man, often seriously conflicts with the course which his highest duty demands; yet the fact that he discards the doctor's advice, does not alter the medical aspect of the case in the least. Even thus it often, nay mostly, happens that the supposed logical arguments according to which Metaphysic reasons, are in sharp conflict with the laws of Logic. There must, therefore, be a point at which these two sciences part company.

If it is legitimate to examine by itself the argument according to which Metaphysic reasons, that is, its "formal principle", it seems no less permissible to isolate the subject-matter about which it reasons, that is, its "material principle", for the purpose of separate examination. In the present chapter we shall attempt to trace some of the main features of that subject-matter, in order to show their very limited extent, and we shall point out certain other properties and characteristics of reality, which cannot be entirely reduced to or resolved into those features. The existence of such special and metaphysically irreducible properties, constitute, we maintain, the justification, on their material side, of the special sciences.

Now, we are aware that a metaphysician of the Bosanquetian school will at once proceed to interpret these special properties in such a way as to make them fit in with the metaphysical properties, and we readily acquiesce in the legitimacy of the procedure. Nevertheless it remains true that

as thus interpreted the properties straightway stand condemned by the special science to whose domain they are supposed to belong. The mechanism of nature, for example, does seem susceptible of being harmonised with the spirituality of nature in the manner in which Bosanquet has explained. But from this it does not follow that the mechanism is in any way less truly a mechanism. The facts of Physical Science, as supplemented and altered from the metaphysical point of view, are not the facts with which Physical Science deals. On the contrary such supplementation and alteration amounts for it rather to a falsification of the facts.

Consequently, and this is the point where Bosanquet seems to go wrong, the Physical and Theoretic Sciences do not follow their own special vocations on the sufferance of Metaphysic; they are not based on certain "working assumptions", "provisional hypotheses" sufficiently correct for their purpose; nor are the truths at which they arrive, by discovery, experimentation, etc., mere "abstractions". And yet, we believe, from the standpoint of Metaphysic the scope and methods of the special sciences must certainly be said to be suppositional, and their truth abstract. The question is, how is this apparent discrepancy to be reconciled? By the simple recognition that the supplementation which any fact receives by entering into a metaphysical whole is one-sided, and not reciprocal. In a word the relation of metaphysical truth to special-scientific truth is, what Russell calls, asymmetrical. For instance, teleology can only be true in a causal medium, and so far we have a whole in which the former and higher concept explains and transforms the latter and lower concept. But it does not follow from this, that the truth of causation is relevant to that of teleology. Again, the universal is true only in so far as it exists in and through the particulars and as the particulars are understood in and through the

universal. But it does not follow, conversely, that the particulars are true only in so far as they exist in and through the universal. And why? Because the standpoints of teleology and universality are higher than the respective standpoints of causality and particularity. But the relation of "higher than" is asymmetrical. If A is higher than B, B of course cannot also be higher than A. There is no reciprocity between the terms. Thus, however much a metaphysical explanation may transcend and sublimate a special-scientific explanation, the latter cannot thereby be radically affected and altered.

It is the great merit of Bosanquet's "Naturalism"[1] that, instead of like Bradley's Absolutism rejecting finite facts as mere appearances, it regards the finitude of the facts as the minimum reality which they can possibly have, to which the Absolute has first to adapt itself before it can transmute the facts into a higher experience. But, although for the metaphysician the finitude is accordingly an abstraction, in themselves the truths of the special sciences which deal with these finite facts, are not mere abstractions but absolutely real. The principle of Metaphysic may consist in reciprocal determination, and that of Physical Science in serial order; moreover, any member of the series may be one of the elements in the reciprocal relation. Yet the relation of reciprocal whole to serial whole is itself one-sided and serial. In short, it all comes to this, that analysis has a certain inalienable priority to synthesis. They do not reciprocally involve each other, however impossible synthesis itself may become without internal reciprocity. The greatest danger to Idealistic Metaphysic is that by overdoing synthesis it may come to believe that Science can dispense with that kind of analysis which has primarily no eye to synthesis.

The above remarks seem to open up an interesting

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1. c.f. The Principle of Individuality and Value, p.318.

vista for Philosophy, in which the analytic character of facts is to be exhibited side by side with their nature as transcended by metaphysical synthesis; and they seem to call for co-operation between Realism and Idealism, rather than antagonism. Not that this is precisely the course which we intend to pursue in the present treatise. But it appeared to us necessary to premiss the above explanations, in order to guard against any future misconceptions. For, indulging freely, as we shall, in analysis, and paying ~~next~~ to no attention to synthesis, we might become suspect of that rationalistic dogmatism against which once Kant and Hegel protested, and which today is being revived in a new form by realists who are following the dubious course of erecting the legitimate results of their analysis into ultimate principles of synthetic philosophy. On the other hand, there can be little doubt that constructive idealists are apt to extract illegitimate profit from the hasty and uncritical adoption of certain principles and facts which a more thorough analysis by scientific methods might lead them to alter or expunge from their systems. It is to the examination of three such principles or notions that we propose to confine our efforts. They are the notions of the "whole", of the "absolute" and of "necessary contradiction". In Part I, on which we are now engaged, only the first two notions will come up for consideration, and in the present chapter we shall begin by analysing the notion of the whole. (By notion, as distinguished from conception, we shall throughout mean a logical entity and not a mental or psychological entity).

We saw at the outset that it is possible to distinguish a "formal" as well as a "material" principle in idealistic Metaphysics. In other words, reality has not only a logical form but also a concrete content. Roughly speaking we may say, that this distinction marks the difference between Bradley's and Bosanquet's treatment of Metaphysic. The prominent feature

of the latter's exposition is the substantiality of the concrete universal, and of the former's method the postulate that "what may be, if it also must be, assuredly is"[1]. In analysing the substance of the whole we shall find it convenient to refer mainly to Bosanquet, while in regard to the form of the whole, a question which we postpone till the next chapter, Bradley will be taken as our guide.

In order to indicate precisely in what respect a Theory of Whole and Parts stands to gain by leaving the metaphysical point of view in abeyance, it will be sufficient if we mention only some of the main features which are characteristic of the substance of the idealistic whole. There are three such: (1) self-dependence, (2) relevancy, (3) concreteness.[2] Since they are very familiar to all students of Idealism, we may be brief in our descriptions of them.

(1) A whole is said to be <u>self-dependent</u> or self-maintaining, when there is nothing outside it by which it might be conditioned nor any fundamental discrepancy inside it, which might split into two or more independent wholes. It contains no want or defect which points to anything beyond itself, but is thoroughly self-sufficing. Its completeness is that of perfection. It is in the full sense <u>the</u> individual and <u>the</u> absolute. Its antithesis is the supposed empty atom, which, however, does not exist.

(2) By the <u>relevancy</u> of the whole is meant the mutual determination of every part by every other part. Every part is necessary in order to the full meaning and truth of every other part and of the whole. It is not merely the relativity of Logic characteristic of correlatives, like father and son, for paternity and filiality are external relations attaching to two

1. cf. Hoernle, Mind N.S. 14. p.313.

2. c.f. Bosanquet, The Principle of Individuality and Value, Lecture II.

persons who have many other qualities which have nothing to do with the individuals being respectively father and son. The peculiarity of relevancy is, however, just this that there is no quality which is wholly indifferent to the relation. The addition or subtraction or alteration of any constituent makes a difference to and produces a response in every other constituent of the whole, however remotely connected with it. The best examples of relevancy are found in our higher experiences, such as those of aesthetic appreciation. "In the system" says Joachim, ("The Nature of Truth," p.102) "the elements are certainly not the same as they are outside, if outside they are at all ... The nature of the notes, as constituents of the symphony, are through and through determined by the harmonic relations of the symphony, and is in those relations not what it would be, if the several notes are sounded in isolation." We quote this instance, because, as we shall see, it aptly illustrates the inherent limitations of relevancy.

(3) And, lastly, the whole is concrete, that is to say, it is all-sided. No side of our nature or of the world is not represented, and none, not even the lowest forms of experience, is represented as a mere worthless negation. Evil, pain, error, ugliness are all there, and their presence is a positive gain to the world. In so far as we may make a distinction between relevancy and concreteness, we may say, that in the former case every part dissipates itself throughout the whole, whereas in the latter case the whole concentrates itself in any given part. Hence it is, that, what for Bradley are mere appearances, are for Bosanquet pregnant with the full life and opportunity of reality. The baser elements of experience - sensation, impulse, pain, etc. - really afford the most splendid opportunities for self-exertion, self-development and self-completion (compare op.cit. p.240, sect.5). Concreteness is the expression and realisation of the whole in every part.

These features, it will be granted, are essential to and characteristic of the metaphysical "whole" of Idealism. Now the Idealist asserts that every other type of whole, and every other property of wholes can be shown to conform to this fundamental type. I do not think that any sane Idealist of to-day would hold in the face of the results obtained by scientific analysis, that the above metaphysical properties, as we may call them, are the only catholic properties, i.e., properties of wholes, known to science. His position is rather that by virtue of its adaptability to every variety of circumstance, the metaphysical whole is capable of manifesting itself in and through these latter non-metaphysical properties, and of comprehending all manner of wholes in systematic unity. In any given whole we may, then, so to speak, distinguish two stages or orders, the pre-metaphysical and the metaphysical. And the crux of the matter consists in determining what status should be accorded to a special type of whole in its pre-metaphysical stage. Does the higher stage react on the lower stage and alter its independent nature? Is it true, that the only way of rightly understanding the special types of whole is to regard them in the light of their function in the metaphysical whole? Bosanquet and others seem to think that we must do so, and therefore he characterises the standpoint of science as in itself relatively superficial. But this conclusion appears to us unwarranted. We shall endeavour to enforce our position by considering a few cases of scientific wholes and their mataphysical transformation. Our examples are chosen at random out of a great number of cases each of which might be made to serve our purpose almost equally well.

It is a significant fact that the discovery of certain definite types of wholes should have been made in an atmosphere wholly foreign to Metaphysics and to Philosophy. We have in mind here, principally such types as have been led up to by researches

in Experimental Psychology and Higher Mathematics. Our first instance, the outcome of experimental-psychological thought, is intended to show that "relevancy" is by no means a characteristic of all psychic wholes.

With his now famous article, in the "Vierteljahrschrift fur Wissenschaftliche Philosophie" (1890), entitled "Über Gestaltsqualitäten", C.F. Ehrenfells virtually initiated that line of investigation which has culminated in Meinong's well-considered theory of complexes[1]. The peculiarity of a complex is, that although the element of the whole, the superius is necessarily grounded in the parts, i.e., the inferiora, these parts cannot be said to enter into, modify or make a difference to the superius, in any such way as Metaphysic expects a relevant part to do. As examples of superiora, or objects of higher order, Meinong adduces melody, four-nuts, diversity, spatial figure. We shall consider the case of the melody only. To begin with we notice that a melody without notes is an impossibility. They are therefore, necessary to the melody, and "ground"[2] it. Nevertheless the same melody may be played in any number of different keys and octaves, so that, consequently, in each case totally different notes are sounded. The psychical matter of the notes must therefore in some way or other be indifferent and unessential to the melody. The melody itself however, is not psychical; it is not a new note alongside the given notes, nor in any way an additional sensation entering into the combination of sensations producing the melody, but a "form" necessarily supervening upon these. For it is possible to have absolutely the same notes but arranged in a different order, or no order at all; none of the external sense-stimuli are thus lacking; yet the old melody will fail to make its appearance. Though thus in a certain way necessarily dependent on the notes, the melody

1. Zeitschrift fur Psychologie und Physiologie etc. Bd.XXI. (1899).

2. "Fundieren."

cannot be said to be one with them. These particular sense-experienced notes are, as Ehrenfells pointed out, actual events in consciousness, causally connected and to be experimentally investigated. But the melody is an object of higher order, spontaneously entering under certain conditions, yet not as a sense-datum. And this, of course, does not prevent it having a very specific quality of its own. In fact, the melody stands to the notes in the same general relation as, for example, magnitude, itself imperceptible, stands to things possessing magnitude, or to take an example from Mathematics, as infinite numbers stand to finite numbers. "Imagine all the natural numbers 0, 1, 2, 3, ... to be written down in a row, and immediately underneath them

0, 1, 2, 3, ... n ...

1, 2, 3, 4, ... n 1 ...

write down the numbers, 1,2,3,4, ..., so that 1 is under 0, 2 is under 1, and so on. Then every number in the top row has a number directly under it in the bottom row, and no number occurs twice in either row. It follows that the number of numbers in the two rows must be the same ... But the number of terms in the top row is obtained by adding one to the number of terms in the bottom row ... In an infinite collection of objects, any finite number of objects can be added or taken away without increasing or diminishing the number of the collection." (Russell "Our Knowledge of the External World"). We quote this passage at length to show that the finite numbers are a matter of indifference to the infinite number, much in the same way as the notes are indifferent to the melody. But though, just as psychical content in the case of the notes, so the finite properties of the natural numbers may be discarded, there must at least be notes and natural numbers on which to build the superiora.

Now melody happens to be a very favourite example by which Idealists illustrate the notion of relevancy. It is

pointed out that in order thoroughly to enter into the music, it is necessary to suspend analysis and take in the effect as a whole. Every note is more than a mere auditory sensation; it is fraught with intense meaning derived from its peculiar function in the whole. Indeed the mind may become so absorbed in the music, that it does not hear the isolated notes at all. These are in fact absorbed and wholly transformed by the melody. Every part has its being in every other part and the whole. To appreciate music in this way is to experience its highest significance and value. Unless this were so, music would be a thing only to be studied in scientific laboratories, and glowing musical genius would be the same as cool analytical acumen.

Here, then, we have two diametrically opposed accounts of the nature of melody, one by the analytic psychologist, the other by the musical virtuoso. The Realist sides with the former, the Idealist with the latter. Are we bound down, that is the question, to an absolute choice between the realistic complex and the idealistic whole, as to which is the artificial and which the true representation of the fact itself? Granted that the idealistic object is a higher form of being than the realistic object, yet it must be admitted that Meinong's analysis of the complex is accurate. Therefore any view which forces us to resolve it wholly into the plastic whole of art must be wrong. In so far as it enters into this whole, and is judged relatively to the ideal embodied in this whole, it must be pronounced a mere onesided abstraction. But this must not blind us to the fact, that it possesses a prior and independent reality which cannot be idealised.

The above instance of the melody is crucial and deserves the time we have spent in considering the problems involved in it. Our next example may be dealt with more briefly. It is the type of whole on which Husserl lays special stress, and consists of the necessary connection of genera. The connection of colouredness and extension is a case in point.

Colour cannot subsist without extension, for nowhere do we find colour which is not extended, nor (in the visual field) extension which is not coloured (reckoning the grey-series as colours, of course). The same essential connection subsists between pitch as such and intensity as such of tones, and between the brightness in general of colours and their "tone" in general. These objects, Husserl insists, are only thus necessarily connected in respect of their essential (pure generic sc. specific) nature. The law of their non-selfdependence (Unselbständigheit) is thus a law of essence (Wesensgesetz).

Comparing this whole of essence with the metaphysical whole, we find that it contradicts both the property of relevancy and that of concreteness. Colour and extension, although essentially inseparable, are not correlatives. Husserl is at pains to show that although the parts are non-selfdependent, and absolutely interpenetrative[1], they are yet not mutually or reciprocally determinative, like the notions of father and son. And just as little as each gives meaning to the other, does either derive its significance from the presence of the other in it. Colour remains generically what it is, inspite of and not because of its necessary connection with extension.

At the same time a glance at any painting convinces us that space and colour may blend and loose themselves in a harmonious whole - not indeed as sensations blend in a sense-continuum such as an unbroken homogeneous white surface, or the volume of sound from notes struck simultaneously - but in a whole charged with aesthetic meaning and value. Our standards of judgment in dealing with a whole of this kind are sense of proportion, delicacy of contrast, in a word, beauty, and not an inch-measure and a spectral-apparatus. Judged by this aesthetic standard Husserl's whole of essence sinks to the level of a superficial aspect though necessary internal condition of the

1. The phenomenon of "Eindringung" has come to be regarded as specially characteristic of the whole in question.

metaphysical whole. But it is a mistake to suppose that, having said this, we have said all that there is to say about the matter - as if the non-relativistic connection of colour and extension were a mere working assumption.

These two instances probably suffice to make our meaning clear, but it would not be entirely amiss, if, in conclusion, we offer a few remarks on the problem of continuity. Bergson, as is well-known, holds that continuity is typical of reality as Idealism conceives it, and Bosanquet, in agreement with him, recognises the property of continuity as essential to a "logically stable" whole. Now, the theory of continuity is, of course, also one which belongs to Mathematics. But what Mathematics means by continuity seems so different from what Idealism means by it, that Idealism finds itself brought into violent conflict with Theoretic Science.

Now the remark which we venture to make regarding this controversy, is that the issue between Idealism and Theoretics seems to be confounded by uncritically dragging in psychological questions. The problem of the psychological sense-continuum as it was first systematically investigated by Weber, and to the analysis of which Wundt's methods (e.g. the method of minimal differences) may be regarded as specially adapted, is no doubt extremely important, and so, of course, is the problem of the relation of the sense-continuum to the arithmetical continuum. But it seems to us an error to suppose, as Russell appears to do in his chapter on the theory of continuity[1], that the psychological sense-continuum is precisely what the Idealist ~~does~~ *has*, or at least should have, in mind, when he talks of continuity. Husserl, a student of Higher Mathematics[2], as well as of Experimental Psychology, has pointed out a huge body of facts which belong neither to Theoretics nor to

1. In "Our Knowledge of the External World".

2. See his Philosophie der Arithmetik.

Psychology, but to a science which he calls Phenomenology. Thus, a sensation is a fact for Phenomenology, not in so far as it has mere existence in the mind, but in so far it is an act of reference to an object, and a vehicle of meaning. Phenomenology is the natural home of Idealism. Whether Husserl ever considers the phenomenological meaning of continuity, we are not aware. But the point at issue between Idealism and Realism is not whether or not the continuity characteristic (e.g.) of the stream of sensation is the same as that characteristic (e.g.) of objective time or motion, but is seen in such a case as the difference between half an hour in some great crisis of a man's life, when his all is at stake, and half an hour of his life spent as subject of time - experiments in a psychological laboratory. For the Idealist, the temporal sensation of the experimentee (if the word be allowed), isolated and stripped as it is of all meaning, possesses scarcely any continuity, and is on an exact par with the mathematical continuum, whereas the sensation experienced by the man in the state of heightened vitality shows metaphysical continuity of a very high order. The characteristic feature of the latter form of continuity is the delicate and well-ordered responsiveness of all the powers and resources of the mind, to meet the exigencies of the situation. There is no dissipation of energy, no distraction or discontinuity. And it is a simple fact which we have just to take as it is, that such continuity is marked by comprehensiveness, fullness of content, thorough organisation and self-dependence or self-sufficiency.

Now mere psychical continuity is certainly an indispensable condition in order that metaphysical continuity may be possible at all. For in so far as there is an absolute break in our sensuous existence, there can be no self, and therefore no internal self-dependence. On the other hand this indispensability for the continuity of the metaphysical whole does not

affect the specific nature of the sense-continuum in the very least. As part and condition of this whole, the mere psychical properties of the sense-continuum are "transformed" in a higher synthesis, and it is in so far rightly described as an abstract aspect of the whole. But existence in the synthesis is not the only existence it has. The dependence is one-sided and asymmetrical. The abstract character which it acquires in its setting in the ideal content is not the same as its real character. "Understanding without Reason is something, Reason without Understanding is nothing"[1].

Our subject in this chapter has been the substantial content of the "whole" of Idealism, and we believe that our discussion has justified the analysis of the content, without having regard to the purely logical argument which may be involved in the metaphysical system. This explanation to the effect that we have not been considering the logical structure of the idealistic whole may occasion some surprise. "Are not," we may be asked "the features you indicated in the whole, viz., self-dependence, relevancy, concreteness, logical properties?" We must answer this question in a decided negative. It was found more than once that they were the very antithesis of the purely ~~theoretic~~ scientific properties ~~at the basis of~~ implicit in the metaphysical whole. The fact of the matter is that idealistic Metaphysics finds itself at a disadvantage from lack of a suitable terminology of its own. To supply this defect it has either to appropriate the terminology of Logic or some other philosophical science, or have recourse to metaphors. Bosanquet adopts the former expedient, but evidently in the fixed belief, that when he uses these logical terms he is speaking of purely logical facts. Thus the idea of contradiction is very fundamental to his work, and is, curiously enough, often accompanied by the

1. Hegel's Life, Rosenkranz p.546, quoted by Bosanquet op.cit. p.156.

epithet "logical". Now it is very plain, especially in his Logic that the only sort of logical entities and "forms" which he admits are such as can be shown to be aspects of the idealistic whole. Consequently, he must ignore the generic difference, on which we insisted, between the facts of Theoretic Science and those of Idealism. The only Logic which he recognises is Philosophical Logic or Phenomenology, a subject to which we shall return in Part II. And Metaphysics as conceived by Bosanquet[1], at least begins by looking for analogies (in other spheres) to the truths of Phenomonology.

Bradley's Metaphysic, although at bottom the same as that of Bosanquet, is characterised by the fact that it is constructed and proved by arguments which for the most part seem purely logical in character. In the next chapter we shall proceed to extract this logical skeleton from his system, only premissing that our conclusions must in nowise be regarded either as a criticism or a justification of the metaphysical validity of the system.

1. Logic 2nd. Ed. Vol.I. p.323.

Chapter II.

The Theoretic Absolute.

In the foregoing chapter we have seen that the criterion expressed by the "whole" may be essentially substantive, or "material", and have thus cleared the way for an examination of the purely logical implications of the "whole", without further burdening ourselves with considerations of a material character.

The absolute logical criterion, if such there be, must, of course, to begin with be absolute. The question accordingly arises: What from a purely theoretic (logico-mathematical) point of view is the meaning of the notion "absolute", here referred to? To this question Royce has given a systematic answer in the Supplementary Essay to "The World and the Individual". Great credit is due to his analysis of the theoretic law according to which Bradley, in so far as the latter's argument is amenable to a strictly logical formulation at all, deduces or might have deduced the notion of the absolute from the "apparent" nature of all finite being. Although Royce's mathematical conclusions do not cover the whole field, we unhesitatingly accept them as far as they go.

But there is another point on which we must, before proceeding further, express our sharp disagreement from him. He seems to assume that metaphysical truth must thoroughly conform to mathematical law. In fact Mathematics seems to hold the key to the understanding of the ultimate problems of Metaphysics. Now, this virtual reduction of Metaphysics to Theoretics is open to serious question. It forms the very antithesis of Bosanquet's procedure of interpreting all mathematical truth exclusively in terms of his metaphysical ideal. But there is no necessity to go to either extreme. Royce,

for instance, maintains "that a determinate expression of their whole meaning (i.e. of numbers) can be found in the life of a Will that fulfils itself through exclusive decisions" (p.575). So too, the self-representative system of the number series is regarded as expressing the whole nature of self-consciousness - We agree with him in denying that there is any thought, will or perception which is free from purely theoretic relations. Therefore every Metaphysic, be it never so idealistic, empiristic or pragmatic, must in some way exhibit the presence of exact theoretic laws. Hence it is also legitimate to analyse the theoretic argument which underlies Bradley's "Appearance and Reality". But this must not blind us to the fact that Bradley's conclusions cannot be finally interpreted, proved or disproved by the results of a purely mathematical analysis, except in so far as he knowingly or unknowingly bases his arguments on grounds of a purely mathematical nature. Moreover, through an elaborate work such as that of Bradley, there may quite well run several theoretic strands, the laying bare of which would, without their being necessarily the central fact in the system, throw light on the metaphysical conclusions. One such strand has been analysed by Royce and, in a sense, it is doubtless the main one. But we believe there is another and very important one which it is our purpose to indicate briefly.

According to Royce the Absolute is an infinite series, that is to say, a self-representative system, such as is defined by Dedekind in his essay, "Was sind und was sollen die Zahlen" (1893). The "Appearances" of which Bradley speaks, are the terms of this series, the members of this system. Now our objection to this interpretation of Royce's is, that since the absolute is the series of appearances, these appearances are infinite terms, and therefore there is no sense in saying that the absolute transcends them. But for Bradley not only are the appearances finite terms, but it is also essential that the

absolute should transcend them. Royce defines the infinite series of appearances precisely as he defines the infinite series of numbers, that is to say, as possessing the properties of continuity or of similarity of whole and proper part. But Bradley's appearances are certainly finite terms characterised by consecutiveness and the capacity of the whole being greater than its part. Let us explain our contention more fully.

Royce does not think the question of finite series or collections essential to Bradley's problem. In fact he does not always make the distinction between finite and infinite with that necessary sharpness on which, for instance, Russell so strenuously insists in his "Principles of Mathematics". Thus the members of the self-representative system are constantly said to be next to each other (cf. p.p. 509, 538, 582). And where he mentions the distinction he does not seem to see its real importance for the understanding of the metaphysical problem. Consider for instance the following passage on pages 5-6-7 op.cit. "It is of finite collections that the axiom, 'The whole is greater than the part' was first asserted. And of such collections alone is it with absolute generality true. Take any finite collection of whole numbers, however large; and then indeed ... the one-to-one correspondence of the whole with a mere part of itself, breaks down. But let us once see that taking any number r, however large, we can find the corresponding rth member in any of the ordered series of primes, squares, etc., and then we shall also see that the absolutely universal proposition, 'Every whole has its single and separate correspondent member in any one of the various ordered series of selected whole numbers aforesaid', is not only free from contradiction, but is easily demonstrable." Again on page 534 it is pointed out, that our intellect, as such an absolute or self-representative system, "itself by itself defines what, in our temporal experience, whether sensuous or thoughtful it of

course nowhere finds given." It is a "concept that comes to us as positive and wholly in advance of counting."[1] Now all this is very true. The point for Bradley's Metaphysic, however, concerns the destiny of the finite collection qua finite, externally given and counted. Royce is anxious to construct a system which is infinite and carefully excludes from the membership of this system anything that is finite. The great merit of such a theory is that it shows, what Bradley believes to be impossible, that we can and do know the positive nature and constitution of the Absolute and the method by which it synthesises its terms. But it has the demerit of leaving the finite collection out in the cold, and of failing to give a logical estimate of its importance in Bradley's system.

A concrete illustration will make this clear. Let thought be presented with a conjunction of terms, "A and B and C" say, "John and a spoon and a plate of porridge". Now, the Many which it is the purpose of thought to combine in the self-representative system, are not the Many thus presented to unreflective thought. The variety to be synthesised in such a system is created by recurrent acts of thought, so to speak on top of the given conjunction. The procedure is as follows: To begin with, thought has before it the complex, "John and a spoon". The next object to be added to this combination would, in ordinary circumstances, be "the porridge". Instead, however, of performing this synthesis, thought turns round to reflect on the complex "John and a sppon", and discovers between the objects "John" and "spoon", another object, namely, the conjunctive relation "and". This third object, which we shall denote by R, requires to be explicitly conjoined both with "John" and "the spoon"; giving us the new conjunction "John and R and the spoon". But by a further act of reflection thought again discovers between "John"and "R" a fresh object intruding, namely, "and", which we shall denote by

1. Compare also op. cit. page 581.

R^1, so that we now have the three objects, John, R^1, R, alongside each other. These objects thought, of course, promptly proceeds to conjoin in the complex, "John and R^1 and R". Continuing such acts of reflection an infinite series is generated. And the unfortunate John so far from getting to the porridge finds even the spoon slipping from his grasp. In other words the "Many" in which reflective thought interests itself are not A, B, C etc., but the infinite series of terms of which A and B are the end-terms. It is the type of self-representative system characteristic of the Absolute. This system N of self-consciousness is formed by reflection and "consists of the original thought, and then the series of reflective thoughts of the form, This is one of my thoughts; yes, and This last reflection is one of my thoughts; and so on without end" (Royce, op.cit. p.533). Such a system is the absolute, consisting of a variety synthesised in a unity by thought fulfilling a single purpose through the performance of recurrent acts of reflection.

The above derivation of the absolute from the nature of relational thought is designed by Royce to disarm Bradley's criticism against such thought, by showing that the process of relational thought, instead of being self-contradictory, rather constitutes the absolute itself. But it evidently fails to bridge the gulf between the infinite series and the finite series. In order to meet this difficulty, we suggest that the relation of the appearances to the absolute be conceived not as that of the terms of an infinite series to the infinite series as a whole, but as the relation of a finite series to an infinite series, or, if we prefer to take the simplest case, as that of a finite integer to an infinite integer. As Russell has pointed out, (Principles of Mathematics, Ch. XIII) in order to understand the distinction between finite and infinite, it is not necessary to assume ordered series; classes will do just

as well. We shall maintain that the principles of finitude and of infinity form an irreducible dualism, a dualism, however, which does not amount to a chasm between the two sides, since starting from either side we can negatively deduce the other side. In what follows the repetition of matter which is to be found better explained in other works, serves the sole purpose of illustrating and defining the dualism in question and the principles it involves.

A class u composed of the terms a, b, c is finite if there are just these three terms in it, no more nor less. These terms exist alongside one another, are definitely fixed and <u>given</u> to thought. Adding one to their number gives us another and larger class, taking away one gives us again another and smaller class. The class obeys the law of mathematical induction. It has plainly - and this is for us the important point - the character of something given externally and ready-made to thought, something whose composition has to be learned by thought, but to whose number such process of learning contributes no new term. Thought has thus to accommodate itself to it. We shall say the class is finite when it thus <u>determines</u>, or is <u>determinative</u> of thought.

On the other hand, a class v is infinite if adding or subtracting a member makes no difference to its number. When it is possible to take away one term from v and leave a class v^1 similar to v, we say that v is an infinite class. It is, of course, the notion of a whole which is similar to a proper part of itself, a notion which we noticed above in discussing Royce. Now, it is quite evident that if neither the addition nor the subtraction of any one or any finite number of its terms alters the class in the least, then the essence of the class cannot be sought in the givenness or determinate number of its terms. These have the character of inevitable though unessential accidents, no definitely

assignable number of them being of any consequence to the whole. The essence of an infinite class or series consists, therefore, not in the terms themselves, but in the internal meaning of the terms, in the constitutive principle of the class, that is, its power to constitute a collection. Such a meaning does define a sphere, but it cannot differentiate between absolute points within it, whose presence or absence would make a difference. It consists of a definite reference, but not of any one or given determinate number of terms referred to. The characteristic feature of the infinite whole then is that it is constitutive or referential.

But although the determinative principle of the finite whole and the constitutive or referential principle of the infinite whole are thus sharply distinguishable, it does not follow that there is no transition of the one to the other. If, on the one hand, we start with an infinite class, we can define finite classes. "For let u be such a class, and let x_0 be a term of u, which we will call the class u_1. Thus u_1 is an infinite class. From this we can take away a term x_1, leaving an infinite class u_2, and so on. This series of terms x_1, x_2 ... is contained in u"[1], and any given collection of them is finite in the sense above defined. By a negative process we have obtained from an infinite class, a class of terms which has the property of being determinative.

On the other hand, given a finite class of terms, then by a negative process which is the converse of the above, we can obtain an infinite class. The terms of a finite class are characterised by the fact that they are given as determinate entities existing next to or alongside of one another, and that the number of them as given exhausts the class. Then from this class we obtain an infinite class by denying the consecutive character or contiguity of the terms. By postulating a term

1. Russell: Principles of Mathematics p.122.

between any term and its neighbour, and again between this new term and its neighbours, and so on endlessly, we make it impossible for any term whatsoever to exist alongside of or next to another term. In this way we get a class which is such that between any two of its terms there is an infinity of terms (as between John and his spoon in the above example). We obtain it in effect by denying a class the right to have a definite number n of terms, that is to say, we put the emphasis not on the independent determinative quality of its members, but on some a priori constitution we choose to give it. We conclude then, that although the determinative and the constitutive principles are in a sense fundamentally distinct, yet they are capable of supplementing one another, each providing an indispensable element of theoretic fact.

This dualism of a constitutive and a determinative factor is destined to play a decisive role in the further course of our enquiry. In a certain unique situation, to which their connection gives rise, will be found the absolute theoretic criterion of which we are in quest. It will therefore not be out of place if, before we proceed to bring this dualism into relation with Bradley's Metaphysic, we attempt to familiarise ourselves somewhat with its general nature. And, indeed, its factors are old friends, known to us with more or less precision in the form of the intensional and the extensional meaning of terms. We can do no better than quote an apt passage from Russell's above-mentioned work (p.66). "It is customary, in works on Logic, to distinguish two standpoints, that of extension and that of intension. Philosophers have naturally regarded the latter as more fundamental, while Mathematics has been led to deal especially with the former ... But as a matter of fact, there are positions intermediate between pure intension and pure extension, and it is in these intermediate regions that Symbolic Logic has its lair. It is essential that the classes with

which we are concerned should be composed of terms, and should not be predicates or concepts, for a class must be definite when its terms are given, but in general there will be many predicates which attach to the given terms and to no others. We cannot, of course, attempt an intensional definition of a class as the class of predicates attaching to the terms in question and to no others, for this would involve a vicious circle; hence the point of view of extension is to some extent unavoidable. On the other hand, if we take extension pure, our class is defined by enumeration of its terms, and this method will not allow us to deal, as Symbolic Logic does, with infinite classes. Thus our classes must in general be regarded as objects denoted by concepts, and to this extent the point of view of intension is essential". "Intension" is, of course, our "constitution", and "extension" our "determination". Even more illuminating is section 330 on page 349. But we must refrain from further quotation and pass on to consider the theoretic structure of Bradley's system.

The thesis which we shall defend can be stated in a few words. We maintain, namely, that the relation of the appearances to the absolute is the relation of a finite whole to an infinite whole, in the former whole the determinative factor predominates in the latter the constitutive factor.

This dualism brings us at once into conflict with Bradley's monism. For him the absolute has no content but its appearances, which is equivalent to saying that an infinite whole has no other than finite terms. But such an identification of finite reality with absolute reality seems to be illegitimate, and, as a matter of fact, plunges Bradley into scepticism. Need we repeat, after the arguments of our first chapter, that metaphysically a monistic view may be valid where theoretically a dualistic hypothesis is plainly demanded? But we may venture the remark that if Bradley's metaphysical monism were thoroughly

satisfactory there could, in principle, be no room for scepticism, the presence of which, monism notwithstanding, seems to show that he has allowed himself to be influenced by dualistic assumptions of a purely theoretic nature to a greater extent than is healthy for his Metaphysics.

What is it that in spite of his scepticism makes Bradley cling to a monistic view? In other words, what from a purely theoretic stand-point is the assumption in Bradley's system, which induces him to ignore the above obvious theoretic distinction? We believe it is the assumption that the criterion of reality is identical with all reality. It is somewhat surprising that Bradley should never have entertained the least doubt about the propriety of unreservedly identifying criterion and reality. "Is there an absolute criterion?" he asks on page 136 of his "Appearances and Reality", and answers. "If you think at all so as to discriminate between truth and falsehood, you will find that you cannot accept open self-contradiction. Hence to think is to judge, and to judge is to criticise, and to criticise is to use a criterion of reality ... But, if so, it is clear that, in rejecting the inconsistent as appearance, we are applying a positive knowledge of the ultimate nature of things. Ultimate reality is such that it does not contradict itself: here is an absolute criterion" Plainly the assumption of the identity of the constitutive criterion with reality is never so much as questioned.

Of course, if the absolute were conceived as a self-representative system, that is, as having no content but such as is constituted by the constructive notion of the absolute, and as excluding finite appearances, the identification in question would be intelligible. But it happens to be an essential part of Bradley's doctrine, that the absolute shall absorb its appearances and thereby acquire the only content to which it can rightly lay any claims. "There is nothing in the

Whole beside appearance, and every fragment of appearance qualifies the Whole; while on the other hand, so taken together, appearances, as such, cease. Nothing in the universe can be lost, nothing fails to contribute to the single Reality, but every finite diversity is also supplemented and transformed. Everything in the Absolute still is that which it is for itself. Its private character remains, and is but neutralised by complement and addition" (p.511) The significant fact about this theory is that by their entrance into the absolute the finite appearances are said to undergo a transformation. They sacrifice their exclusive character of finite appearances, when taken up into the absolute. But this leaves us pretty much where we were before, for instead of accounting for the distinction between absolute and appearances, we have now to account for that between the original and the "absolutised" appearances.

But what led Bradley to identify criterion and reality, absolute and appearances? The only plausible answer (theoretically) is to be found in a certain ambiguity in the notion of "the whole". In the first place, any question regarding the whole of reality is not about something given, but about a reference which of itself defines the objective sphere referred to. It expresses not a fact but a norm or criterion, and has the character of a demand to be fulfilled. To regard reality as a whole is not to view it as possessing this or that concrete content which can be discovered within it, but amounts to forcing a form on it ab extra. The whole in this sense is a constitutive concept which defines its own content irrespective of the finite limitations of what is given to it. Such a whole is intensional. If the demand for the whole is unqualified nothing short of the absolute will satisfy it.

But in the second place, the whole may become materialised and so cease to be a criterion. It is then simply a thing

which is given a posteriori without any normative character. Thus a table is a whole. If it is hacked to pieces, then the bits are other wholes, and the table will only be a whole up to the moment operations were started upon it. A material whole is as it is given once for all. An alteration to it makes another whole of it. Its identity does not consist in its conforming to a certain a priori type, but is determined by itself. A whole in this sense is extensional.

Now we submit that the intensional whole can be realised and can constitute its object without absorbing or transmuting the extensional whole, just as an infinite series is possible without thereby making the finite series an illusion. The whole of reality intensionally considered is certainly all-inclusive in the sense that it refers to absolutely everything, finite things as well, and unites them according to an aprioi plan. But it is a reference which so to speak touches finite things only on their outside. In themselves they retain all their characteristics of finitude, particularity and externality. The old example of the sphere of human beings still affords the simplest illustration of this dualistic principle. Considered in extension this whole is simply the finite collection of particular men; considered in intension, it is defined by the concept humanity. Now every individual man is an external element in this intensional whole of humanity. But from this it does not follow that the parts of the concept of humanity are made of flesh and blood and live and die - that is to say, the absolute is not transformed into appearances. And, what is the same thing from another side, although humanity is a property of every individual man, it is yet not a finite property like having two legs or a faculty of reason, for if I were to define "man" as that which has humanity I would be defining in a circle - that is to say the appearances

are not transmuted into parts of the absolute.

We conclude, then, that the absolute transcends finite appearances, and that it may even be said to absorb them, without transmuting them. Logically this involves no inconsistency or imperfection in the absolute, nor does it conflict with the criterion of the "whole". It follows that in so far as Metaphysics can nevertheless from its own standpoint not rest content with a dualism it must be based on a distinct principle or set of principles. In our first chapter we enumerated, following Bosanquet, three of these principles. In how far they are adequate to a Metaphysic we do not intend to decide. But in the two chapters which are immediately to follow, we shall find that these very principles are capable of a highly specialised application to a particular body of facts, and that they form the basis of a special science which exists by the side of Psychology and Theoretics - a science which Husserl calls Phenomenology. It would then appear that Metaphysics is just an extension by analogy of phenomenological principles far beyond the bounds of Phenomenology itself. The question of the legitimacy of Metaphysics is identical with the question of the legitimacy of such extension - a question, the consideration of which, however, falls outside the scope of the present paper.

PART II.

PHENOMENOLOGY.

Chapter III.

The Sphere of Phenomenology.

To a mind schooled in British Idealism any allusion to a logical criterion inevitably suggests the principle that "the truth is the whole", a principle to which we devoted some attention in our first chapter. It was there pointed out that the content ascribed to this whole excludes some very definite facts of reality. We intend here to return to this subject of the idealistic criterion, but instead of approaching it from the side of Metaphysics, we will approach it from the "logical" side. But, and this is the question, what is meant by the "logical" side? We believe that under the epithet "logical" two entirely different notions are often confused, which even when they are distinguished are not done so with sufficient consistency. The fundamental importance of clearly defining the distinction and of remaining true to it in practice can hardly be exaggerated. We have in mind the distinction between "Metaphysical" or "Philosophical Logic" and "Formal" or "Pure Logic". But neither of these two kinds of Logic seems prepared to recognise the right of the other to independent existence. The tendency on the part of Philosophical Logic is to assert that Formal Logic consists merely in a one-sided and in part mistaken way of explaining certain facts and principles which are far better treated in the pages of Philosophical Logic itself. On the other hand Formal Logic - especially in view of the vast progress it has made in recent years under various names, such as Symbolic Logic, etc. - professes an utter inability to understand how there can be room in Science for any other kind of Logic than itself. Now it is our purpose to endeavour to elucidate the main grounds for and against the claims of both sides, and to define the tests by

which their respective spheres are distinguishable. We shall maintain on the side of Formal Logic that there is, properly speaking, only one science which has a right to the name of Logic, namely, the one which operates with symbols (and therefore conveniently classed with Mathematics under Theoretic Science). At the same time we refuse to be blinded by the dazzling successes of Logic in this sense to the existence of another distinct body of facts equally worthy of investigation. But, having appropriated the name of Logic for the discipline which is a species of Theoretic Science, we require a special appellation for the other discipline thus adumbrated.

We need not, however, be at a loss for a suitable appellation, since Husserl has supplied it. His great achievement is to have re-instituted, amidst the all-prevailing Kantian -ism of his country, that science which, in common with Hegel, he calls Phenomenology. In Britain the best exposition of phenomenological principles is probably to be found in Bosanquet's Logic. This assertion may perhaps occasion some surprise. But its truth is brought home to us by remembering that Bosanquet's Logic is much more intimately connected with Hegel's "Phenomenology of Mind" than with Hegel's "Science of Logic", as a casual comparison of the first two chapters of Bosanquet's work with those of Hegel's "Phenomenology" will suffice to show, although afterwards the differences become great enough. On the other hand, the great difference between Hegel's and Husserl's Phenomenology is that the former believed in an absolute Mind extending far beyond the limits of individual consciousness, a belief that led him into all sorts of sociological, historical and other discussions which Husserl who knows of no mind except that of individual consciousness would regard as altogether irrelevant to Phenomenology. Both, however, share the fundamental conviction that in knowledge, in

appreciation of the beautiful, etc., we live and are absorbed in an ideal content. So too Bosanquet interests himself in thought, etc., not as a temporal occurrence in the mind, but as the embodiment of an ideal reference to reality, and as charged with meaning. The great difference between Husserl and Bosanquet - a difference so great as almost to obscure the fundamental principle which both have in common - is that the method of the former is entirely analytical, whereas that of the latter is throughout synthetic. All this will appear more fully presently. In passing we may perhaps be allowed to express our conviction that no enquiry is likely to yield more fruitful results to "Hegelian Logic" (so called) than one which devotes itself to a careful comparison of the phenomenological researches of these two men.

Such an elaborate comparison, however, it is not our purpose to undertake. Our aim is merely to determine the precise sphere or scope of Phenomenology in order thus to be able to distinguish between it and Theoretic Science. It will be sufficient therefore if we indicate only the main principles which characterise both Husserl's and Bosanquet's conception of this science. We naturally begin with Husserl. The most general definition of Phenomenology as understood by Husserl is that it is the science which investigates "intentional acts". The vastness of the field demarcated by this phrase might not be evident at first sight, but is at once seen when it is pointed out that there is no state of consciousness which does not in fact take on the form of an act of one kind or another. It is, therefore, necessary to divest the word act of any special associations it might have with volition. There are acts of sense-perception, of presentation (imagination, memory, etc.), of judgment, of aesthetic appreciation, of desire, etc., all specifically different but none of them having any connection

with acts of volition. To "act" may thus be said to be a fundamental character of mind. This, however, does not imply that action is the whole character of mental states, for, as we shall see, Phenomenology is not the same as Psychology, which latter science deals with psychical states primarily not as acts but as occurrences in the mind. Nevertheless it seems impossible to find any state which does not in some way or other issue in an act. These acts are mostly inter-connected in the most elaborate manner, as, for example when I judge about a thing which I perceive, or will a deed on the basis of what I believe. The word "act" is therefore to be taken in its widest possible application.

However it is not the act which principally concerns Phenomenology, but its intentionality. Every act "intends", "tends towards" or "refers to" an object other than itself. Thus every act is essentially intentional. Not only so, but it is the form of intentionality which distinguishes one act from another and makes it what for Phenomenology it is. Here again we have a word which Husserl uses in a sense much more extensive than that which it currently bears, especially in Ethics. Thus Ethicists debate the question whether intention and motive are the same or not; and when we say a man commits a crime intentionally, we mean that he does it "on purpose". But Husserl employs the word more in accordance with its derivation, without any special application to purpose or will. To him "Intention" or intent means the same as reference-to-object. He seems to be indebted for the word in this sense to Brentano who may justly be said to have inspired both Husserl's Phenomenology and Meinong's "Gegenstandstheorie" of which more anon. All that Science, Religion and Art says and means is ultimately explicable in terms of the reference of acts to, their "Intendierung Auf" an object. It is this that gives to the objective world that ideal structure which it has as a pure

object of thought (as in Logic), of art (as in Aesthetics), of Will (as in Ethics) etc. Obviously, intentionality is immensely varied and complex in its forms. We need only consider the case of thought to become aware of the truth of this statement. Thus thought analyses and synthesises its objects, identifies them, makes predications of them, counts them. Again the thought-reference may be to a definite object, as in the case of the demonstrative "this" and of proper names, or it may be indefinitely to any object as in the case of an abstract, general concept. Or again the intention may directly qualify an object, as in knowledge, or, as in the case of wishes and questions, convey a subjective meaning or experience in indirect reference to an object. The reference may be perfectly precise and logical although its object cannot exist in perception, as in the case of imaginary numbers. It may have the character of realisability as in truth, or of mere reference as in suggestion. And so on. The psychical act has no interest for Phenomenology except as the "vehicle" or "expression" of some form of intentionality. But these are inaccurate metaphors, because it is only because of its intentional character that an act is an act at all. Of course, "objective reference" is a fundamental principle in the philosophical theories of such men as Bradley, Bosanquet, Stout, etc., and it is just on that account that we take the liberty to classify these theories under Phenomenology. Most of Stout's Psychology will be regarded by Husserl as simply Phenomenology.

With this general definition of our Science before us, we are prepared to distinguish it from closely allied but fundamentally different Sciences, that is, from Psychology on the one hand and the Theory of Objectivity on the other hand. There is a further qualification to be made to our definition, which however is best introduced after we have determined the sphere of these latter sciences. It arises in connection with

a word which we refrained from mentioning in our description of the intentional act, but which plays an important, though by no means fundamental, part in Husserl's work. It is the word "Erlebnis". Every act is necessarily an "Erlebnis", but it is not in virtue of its being an "Erlebnis" that it concerns Phenomenology, but in virtue of its being intentional. The fact of its being an "Erlebnis" is exactly what makes it an object of Psychology. Perhaps the best English equivalent of "erleben" is "to experience", or simply "to live". Now, it is significant that the attacks against which Phenomenology has had to defend itself mostly come not from the side of Pure Logic, but from that of Psychology. That, incidentally, is a very strong proof in favour of our contention that there is a generic difference between Phenomenology and Theoretics. But it is equally imperative to be quite clear as to the distinctions between Phenomenology, Psychology and what modern Realists loosely call "Metaphysics" which however so far from being a Metaphysic at all is really a systematic Theory of Objectivity (Gegenstandstheorie), as chief exponents of which we may select Russell and Meinong. No doubt, in the light of realistic research especially as conducted by Russell some important modifications would have to be made in detail to "Gegenstandstheorie" as recognised by Husserl. But it is equally true that Russell's conception of his "Metaphysics" especially in its relation to Psychology, not to speak of Phenomenology, can scarcely be said to be free from ambiguity.

In order to find our bearings in this complicated situation, we shall take our stand on the momentous declaration of Husserl on p.p. 326-44 of his "Logische Untersuchungen II." of which the following paraphrase may for our purpose be regarded as the gist:- "It is the fundamental defect of empiricism that it fails to differentiate between appearance as intentional experience ("Erlebnis") and the appearing or intended object,

and thus to identify the experienced sensation-complex with the complex of objective properties. For instance, my perception of a colour is a real constituent of consciousness. But the object itself (the colour), although it is perceived, is not experienced or lived, it is not a matter of consciousness ("erlebt oder bewusst"). The object is perceived but not the perception of the object; the perception itself is lived. In order to perceive the perception a further act of introspection is required. Not seldom, however, colour sensation and objective coloured-ness are confounded. Especially in our day it has become the fashion to speak as if these two were the same thing considered from different points of view or interest; thus psychologically considered it is called sensation, while physically considered a quality of an external thing. But as against this, it need only be pointed out that there is an unmistakable difference between the homogeneous redness of this paper, as objectively seen, and the shadings of the accompanying colour-sensations. The ambiguity which betrays us into designating as appearance not only the experience in which, so to speak, the object appears, but also the appearing object cannot be too severely condemned." The point of fundamental importance is that in one and the same act we both perceive (or think, etc.) an object, and experience or live the perceiving (or thinking, etc.) Hence no description of psychical appearances can ever supersede a description of objective forms, and vice versa. The source and faculty of acquaintance is different in both cases. What in each case we learn about the facts cannot be brought under a single law. The paths of Psychology and Theory of Objectivity can never cross.

The science of Psychology has thus a clearly defined sphere of its own. It investigates mental states but only as occurrences in the mind. Like all temporal events these

psychical events are causally connected and empirically conditioned, and generally behave themselves like real objects of the physical world, one state causing another, or again two states blending much like chemical substances in a solution (for example, white light produced by fusion of the colours of the spectrum); only, of course, that causal connections between two states and between the physical objects of which we become aware through them are entirely different things. These mental states and processes are directly observable by introspection with the aid of artificial contrivances which produce and control them. Empirical Psychology is thus essentially Experimental Psychology. It is not Phenomenology for it eliminates the intentional side altogether, and defines many of the psychical processes and connections by mathematical formulae (e.g. Weber's law of increase of intensity). Perhaps it is objected that it is impossible to get rid of the objective reference which is present wherever there is a psychical act. But what Experimental Psychology does is to keep the intentional element constant, as for instance by directing the subject to concentrate his attention on a given object (i.e. by what German Psychologists' call "Einstellung"), in order thus to give the causal process in the mind free play. The intentional character itself is ideal and neither causes nor is caused by anything. Nor, on the other hand, is Psychology to be confused with Gegenstandstheorie for the latter abstracts wholly from psychical states. In fact, as we shall see, a knowing mind need not for it exist at all. What Psychology tells us about "lived" mental states is not the same thing as what is referred to by the mental acts in which these states issue. It is therefore incumbent on Psychology to be on its guard against mistaking such objective connections for mental processes.

But if it is an error for Psychology to talk "Gegenstandstheorie", it is equally an error for Gegenstandstheorie

to talk Psychology. Unfortunately, Gegenstandstheoretiker do not always succeed in steering clear of psychicalism. British Realists in particular, whose national bias towards empiricism seems to have been accentuated by the influence of such writers as Mach, are prone to drift on to the rocks of psychicalism. We cannot, of course, here substantiate this accusation in general, but as an example of the tendency we may consider Russell's notion of a "sense-datum", with special reference to his article in "Scientia" (I. VII. 1914) entitled "Sense-data and Physics". The question before us is, whether Russell's sense-datum is an experience or an object apprehended by an experienced act. In so far as it is "sense" it would seem to be an experience, but in so far as it is a "datum" it would seem to be an object. A "sense-datum" would thus appear to be an impossible hybrid precisely of the kind to recommend itself to an empiricist. But a closer examination of Russell's theory shows that he is dealing entirely with objectivity, a fact which he himself sometimes recognises so clearly, that it is difficult to reconcile with it his terminology, and certain statements which suggest a wholly opposite view. Take, for instance, his theory of visual space. It would make not the slightest difference to the essentials of this theory if in the place of the perceiving eye we substituted a photographic camera. If so, then it must be possible to state this theory without any reference to psychical matter such as is implied in the terms "sense-data" "Sensibilia" "perception", etc. If, for example, a table were photographed from different positions we would get so many different images, and these are so many perspectives of the same thing. Thus from one position the table will give a rectangular image, while relatively to another position it has two acute angles and two obtuse angles. If instead of the camera we use a human eye with its lens and retinal surface, we may call the

shape or image as determined from any given position an appearance or a "sensibile", and by these terms we need therefore imply nothing psychical. Then by correlating the elements of the various perspectives we are able to define the thing in terms of such "sensibilia" alone as the whole class of its images, and define also the place at which, and the place from which the thing is imaged. "There is first the place which is the perspective of which a given "sensibile" is a member. This is the place from which the sensibile appears. Secondly there is the place where the thing is of which the sensibile is a member, in other words an appearance; this is the place <u>at</u> which the sensibile appears. The sensibile which is a member of one perspective is correlated with another perspective, namely that which is the place where the thing is of which the sensibile is an appearance. To the psychologist the "place from which" is the most interesting, and the sensibile accordingly appears to him subjective and where the percipient is. To the physicist the place at which is the more interesting and the sensibile appears to him physical and external" (p.15). We have quoted Russell thus at length in order to show the irrelevant manner in which the psychological point of view is introduced. It is certainly true that the psychologist is mainly confined to the "image at the place from which" in his investigation of psychical data, but it does not follow that it is this image itself which is the object of his special investigation, since it might just as well have been cast on to a photographic plate. Of course the eye cannot but see the table in a given perspective. But it is a grave error to assume that the perspective is the same as the perspective-perception, i.e. with the perception of the perspective. Whether or not the two agree in every point can only be discovered by elaborate experiment. And by perception is not meant "mere" perception but a concrete visual construction. What we

experience in seeing the table is something generically different from what we see. Hence there can be no question of constructing the world of Physics from sense-data (i.e. sense materials). Nor, fortunately, is there any need for doing so, since from the very outset we see a non-psychical objective space (the perspective) which is directly "intended" by the act of vision. The psychical matter of this act originates from a wholly different source. It is gratuitous on the part of Empiricism to interpose a sense-datum or mental state between the intending act and the intended object so as to obliterate the latter altogether, and then to declare that, since we only perceive such sense-data, we must construct Physics out of them. The fact of the matter is we directly see the objects and not the perceptual data referring to them. As Husserl somewhere remarks, the mental or "lived" content is not (if we must needs use the metaphor) between the subject and its object, but behind the subject, only to be itself perceived by our looking backwards (introspection). It is like the quicksilver at the back of a mirror, which enables the glass to image objects while it is itself not imaged. To explain the objective world in terms of sense-data is like explaining the geometrical properties of a photographed object in terms of the chemical processes in the substance on the photographic plate.

By the above criticism no disparagement is meant of Russell's objective construction of physical space, which seems the more consistent the more we drop the foreign sense-data. It is merely intended to point out that this construction can be accomplished out of objective elements and forms alone, without reference to psychical facts at all. And this Russell himself more than once virtually admits. Thus he says "I regard sense-data as not mental, as being in fact part of the actual subject-matter of Physics" (p.4). And again: It is necessary "to distinguish between sense-data and sensations. By sensation

I mean the fact consisting in the subject's awareness of the sense-datum ... The sense-datum on the other hand stands over against the subject as that external object of which in sensation the subject is aware". But if so, and if, as is a fact, the validity of the objective construction of space is not contingent on the sensation of the subject, why always encumber the pure perspective-element with a further contingent sense-element which is not necessary to the construction? The same criticism applies also to Whitehead's method of defining a point by means of a "punctual-enclosure-series", a definition which has the supposed virtue of employing nothing but "an assemblage of data of sensation".[1] "Gegenstandstheorie" is able to dispense wholly with a mind.

Perhaps we have spent a disproportionate amount of time in analysing the above instance of what is meant by objectivity. But the standpoint of the Theory of Objectivity is a difficult one to define precisely without the aid of some illustration. The Austrian school of Meinong (to whom of course we owe the term "Gegenstandstheorie") has invented a technical terminology, and its theories cannot therefore be simply quoted without irksome explanations. There is, however, one important point which Meinong has made particularly clear, and on which, following him, we must insist, namely, that the objects investigated by Gegenstandstheorie are essentially <u>ideal</u> and non-empirical. (See his criticism of Mach in his work "Uber die Stellung der Gegenstandstheorie" etc. 1907). He makes a very careful distinction between content of consciousness and the object of consciousness[2]. The content is psychical and does <u>not</u> form part of the object. Hence Gegenstandstheorie is not like Psychology a Science of Actuality (Wirklichkeitswissen-

1. C.f. Russell; Our Knowledge of the external World p.155.
2. Zeitschr. f. Psych. u. Phys. Bd.XXI.

schaft) which deals with empirical and contingent existences. Its objects subsist, they are a priori and necessary and not liable to change with lapse of time. This is self-evident in the case of the specific object of judgment, that is, in the case of propositions or "Objectives". Thus the snow outside is a real object, and of it I have an empirical knowledge, but "that there is snow outside" is an ideal proposition which in its own specific way is valid even though in reality there be no snow outside. It is because of this a priori necessity (Aristotelian Logic calls it a "form") that such Objectives constitute the peculiar object of Mathematics and Logic. But it is no less true that in presentations and even perception there are interwoven objects that are ideal and necessary, as Meinong has attempted to prove in the case of data where such ideality would be the least expected, namely, of colours; a circumstance which points to the possibility of a "Colour-Geometry"[1]. And indeed, if there are ideal relations in the extensity of touch and sight, then the burden of proof seems to fall on him who denies the subsistence of such relations in the world of colour-sensation. For example, we find continuity and infinite series in the spectrum just as we find it in the space with which ordinary Geometry deals. So also there are ideal objects in assumption, in artistic appreciation, etc. (Meinong's exposition of his famous theory of assumptions[2] gives about the best insight into his Gegenstandstheorie, provided we remember that the enquiry is mainly psychological). Objects can, in virtue of their essential nature, be divided and sub-divided into classes. Thus Meinong distinguishes between Sein, Sosein, Aussersein, etc. But the fact to get hold of is that the truths of Gegenstandstheorie are not such as can be learned by daily experience, although they never manifest

1. Ibid. Bd. XXXII.

2. Uber Aunahmen 2. Aufl. 1910.

themselves and their grounds outside of experience. To appreciate the difference between the ideality of Gegenstandstheorie and the contingency of Empiricism the reader is advised to compare the work of Russell or Meinong with the Empirical Logic of Venn, the most radical of Empiricists.

The relation of the Theory of Objects to Theoretics, that is, to Logic and Mathematics is, as Russell and Meinong both tell us, very close, although there is nevertheless a fundamental distinction. I would regard all the initial definitions and axioms, or the primitive propositions, as analyses of objects, in the sense of the Theory of Objectivity. But the moment we cease to think <u>about</u> these definitions and axioms, and begin thinking <u>according to</u> them, or as Meinong neatly expresses it, as soon as the Objectives are no longer "beurteilt" but are "geurteilt", we pass from the Science of Gegenstandstheorie to that of Theoretics.

The standpoint of Phenomenology is, plainly, very different from that of the Theory of Objectivity. For to the former the relation to mind is essential, while to the latter it is not. It is true that the objective world owes its ideal structure to the intentional act of the apprehending mind. Nevertheless the objective relations in this structure hang together according to exact laws in which the contingent element of mind is wholly absent. A good example of the difference in question is afforded by Russell's and Husserl's definitions of a "thing". According to Russell a "thing" is the class of its images, that is of all the forms it exhibits relatively to every position;- a purely objective definition. According to Husserl a "thing" is the network of partial perceptual intentions synthesised in a total intention (op.cit. II. p.513). That is to say when looking at a table and following its lines and shadings with the eye, these latter form themselves for my

perception almost instinctively into various series all tending "involuntarily" towards continuation and completion on the ~~other~~ invisible side of the table. The total of such intentions set going so to speak, by looking at the table from all sides are aroused every time I subsequently look at the table, even although none of the previous mental images are present to supplement the perceptual image. This definition plainly takes into consideration subjective elements.

Nor is Phenomenology to be identified with Psychology. On this point we have already insisted. Phenomenology effects its descriptions not in terms of the psychical processes of apprehending acts, but in terms of the pure forms which characterised such acts in their reference to their objects.

We remarked above (p. 34) that a further qualification of the definition of the subjectmatter of Phenomenology would be found necessary. This need arises from the fact that "intentionality" or "reference" is merely the most general description of the acts. But the reference can become endlessly complicated as in the case of admiring a sculpture or uttering a motto. In such cases we not only "live" the acts but these are themselves alive with meaning (they are "sinnbelebt"). We have not merely abstract intention but "Bedentungs-intention", i.e. significant intention, which is of course of very special interest to Phenomenology. Most of the words or names of ordinary intercourse express acts conveying meaning. The reference of such meaning is however so far quite general, but this meaning becomes <u>knowledge</u> of an object so soon as the reference is especially directed to that object. Then we say that in knowledge significant intention is fulfilled. It is precisely such comparatively complex acts, whose intention are capable of fulfilment, that is, of truth, that Bosanquet makes the subject of study in his "Logic". In the following chapter we shall have an opportunity of showing how unique is the nature of

significant intention and of knowledge. But by way of introduction it would not be amiss to quote Bosanquet's description of significant content, and thus to throw into relief the difference between the sphere of Phenomenology and that of Theoretics.

"That which the name signifies is for us at all events an identical character exhibited by different contents, or different contents united by a common character ... You may judge the thing to be round, hard, heavy etc.; but you will not express either thing or attribute than other than an element of identity which is exhibited and takes shape in different relations... This - an identical element which enters into and is entered into by differences - is what we call the logical significance of a name ... The point and purpose of a name is always to refer to the same" ... (Logic I. p.12-15). Now we fully agree that the description of phenomenological content as an identity in difference is accurate. Nevertheless, Phenomenology apart, and having regard solely to the pure theoretic relations of identity and difference, we find that the principle of identity in difference is self-contradictory. The proposition "x is identical with y" is true when every predication of x is also a predication of y, and vice versa. If, however, in accordance with the said principle, x cannot be identical with y without also being different from it, then x and y must be such that every predication which is true of both must also not be true of both - a palpable contradiction. Furthermore, if in order that x and y may be identical they must first be different, but again, in order to be different they must first be identical, we would seem to be landed in a situation in which it is impossible for x and y to be either identical or different. The only satisfactory way out of our difficulty is to assume a distinction of spheres, and of the validity of this assumption the next and following chapters may be regarded as the proof.

Chapter IV.

The Phenomenological Criterion.

The service rendered to the Science of Phenomenology by Husserl consists in his clear definition of its analytic standpoint and subject-matter. His treatment, however, labours under a very great defect, namely, that it is destitute of a synthetic criterion of truth. To have made good this defect is the outstanding merit of Bosanquet's "Philosophical Logic". The phenomenological criterion which the latter applies most consistently throughout his work is called by him "Logical Stability". The epithet "logical" will be found to be misleading, but may be retained to distinguish the sort of stability characteristic of phenomenological truth, from physical stability, e.g. of an engineering structure. Moreover, Bosanquet's criterion does not cover the whole scope of the science as treated by Husserl, but applies more especially to what the latter calls "Bedentungsintention". For our purpose we shall find it convenient to restrict the scope of Phenomenology within the limits of Bosanquet's treatment of it ~~in conformity with~~ ~~in order to emphasise the difference between it and Gegenstandstheorie.~~

What, then, precisely does Bosanquet mean by logical stability, also spoken of as coherence or as self-maintenance of judgment? Personally speaking, it appears to us indefinable. Bosanquet, however, who apparently does not believe in indefinables offers a definition in terms of the principle of non-contradiction. But since, as we shall see the principle of identity in difference correctly expresses the nature of logical stability, and since, however, the principle of identity in difference was found to be altogether incompatible with that of non-contradiction, it would seem to follow that logical stability and non-contradiction are incompatible notions. Hence if we retain the reference to non-contradiction in the definition

of logical stability, it must bear a unique sense which in its turn can only be defined in terms of logical stability, in which case Bosanquet's definition of his principle becomes circular. We can, therefore, strictly speaking, not define it, and any supposed definition must be regarded simply as a general indication or description. "I understand Truth to be that characteristic of a system of propositions, which makes it free from self-contradiction and from contradiction with the rest of experience. This characteristic may be technically described as logical stability. It involves the conception that every judgment is at once determined as to its meaning, and criticised as to its non-liability to contradiction, by its place in the whole system of judgments which represents our organised experience. Its degree of non-liability to contradiction, internal or external, is its degree of logical stability ... The rules of inference come in rather as the modes of passing from grade to grade of logical stability than as expressive of relations between this or that or these and those propositions. How and under what reservations premisses yield a conclusion, for example, is the study of the formation of a whole of relatively higher stability than its isolated data, not a mere playing a game under given rules" (Logic, Vol. II. p.45-6). Again: "A judgment is true as I understand the term, when or in so far as its self-maintenance as a judgment is perfect. That is, in other words, when the whole system of the judgments which experience forces on the mind which makes it, contains less contradiction in the case of its affirmation than in the case of its denial" (ibid. p.288).

Now we submit, and it is the purpose of the following pages to prove, that this definition of the phenomenological criterion imposes a limitation which differentiates in favour of a specific sphere of truth, and excludes other spheres, and that truth <u>as such</u> or in general is therefore not, as Bosanquet

holds, the object of Phenomenology. We shall at once endeavour to explain and substantiate our contention by an instance. In Bosanquet's Logic the various types of judgment are arranged in the order of their truth in accordance with the criterion of logical stability. Thus a judgment of quality like "it is cold" is much less true than a universal judgment of science, like "all material bodies gravitate". Now suppose I tumble into a pool of water at freezing point and exclaim "it is hot", this judgment would certainly be false. But what am I to think of a friend on the bank, who hearing my remark turns on me with: "You are a liar, there is no truth in saying that it is hot, because it is much more true that all material bodies gravitate". If I am a student of Bosanquet's Logic, and have the presence of mind, I would reply, "Yes philosophically speaking you are right the latter judgment is truer than the former, but if I am not I would request him please to talk sense. Here then we have a case in which the truth of "it is hot" is compared with the truth of "it is cold" and with that of "all material bodies gravitate", but obviously in each case we apply a different standard of comparison. In the first case it is the <u>fact</u> of its being cold that is incompatible with the fact of its being hot, whereas in the second case it is the <u>judgment</u> "it is hot" that is said to be in contradiction with the judgment "all bodies gravitate", that is to say the "forms" of these judgments are not the same. Only in the former case do the facts expressed by the judgments come up for consideration, in the latter case they are a matter of indifference. But there is no standard of comparison between the truth in the former case and the truth in the latter case. The first set of entities is real and belongs to Psychology, the second set is ideal, and belongs to Phenomenology. In the first our criterion of truth is degree of heat, in the second it is degree of logical stability, and heat and logical

stability are obviously not comparable. Perhaps Bosanquet would reply that in both cases we have coherence. But this reply cannot be taken seriously, for the coherence that is spoken of in the first case is a complex of existing sensations, while in the second case it is a unity of meaning or subjective content. Originally the word coherence stands for real connections, and its phenomenological use is figurative. Husserl has drawn attention to the poverty of our phenomenological terminology and insists on our dependence on figurative expressions to supply our need. Since the word coherence has been definitely appropriated by Phenomenology, for example in the phrase "coherence-notion of truth", it is well to divest our minds completely of any associations which "coherence" has with the real entity, and to guard ourselves against treating phenomenological coherence and real coherence on a footing of equality - an error to which all Idealists are excessively prone.

What has been made clear in the case of an example borrowed from Psychology, can easily be shown to hold good in the case of the other sciences. Thus the disjunctive judgment is truer than the equational judgment. But that has nothing to do with the respect in which the equation 1·99 = 2 is truer than the equation 1·9 = 2. The so-called special sciences present us with problems which Phenomenology cannot solve, the solutions of which must therefore contain some element of truth which Phenomenology cannot valuate.

Bosanquet, however, starts from the fundamental assumption that "truth is the whole" and leaves no doubt on the question that within this whole are included all possible kinds of truth. According to the Introduction to his Logic (p.2.) Phenomenology (or "Logic" as understood by him) is the analysis of knowledge as a systematic function which has the power to constitute a real world which is its truth or content. Outside

this world there is nothing whatsoever. For "if the object-matter of reality lay genuinely outside the system of thought, not only our analysis, but thought itself, would be unable to lay hold of reality. For logic at all events it is a postulate that "the truth is the whole". It is undoubtedly true that Phenomenology deals with the reality constituted by thought, and undoubtedly that reality is as comprehensive as the content of the ultimate all-embracing judgment. But, even so, there are limits to that content, the limits of logical stability which are also the limits of the "intentionality of meaning".

But where Bosanquet is on his own ground he is remarkably clear and consistent in the working out of his system. Especially convincing is his description of the nature of subjective content, the subject-matter of Phenomenology. By way of explanation he analyses an instance[1]. Every ordinary man knows that Charles I died on the scaffold. But he knows it as he knows all the current facts which belong to the ordinary educated man's stock-in-trade and which he accepts uncritically from authority, tradition, or casual observations. Now phenomenologically the truth which the fact that Charles I died on the scaffold has for each of us, depends on the knowledge and understanding we have of the Stuart period in British history. To the man who has no such knowledge it signifies next to nothing, to the man who has it may be the key to a vastly complex historical and cultural situation. "It is not so true in the mouth of the child who has just learned it by heart as in the mouth of the school-boy who knows something of the history and significance of the seventeenth century. And in neither's mouth is it so true as in that of a historical student to whom the seventeenth century is a familiar world and a living interest". Plainly the truth that attaches to the judgment of a well-informed and well-balanced mind is

1. Logic, Vol. II. p.284 sq.

unique. Its characteristic certainly is logical stability. But what is it that gives to the knowledge which the great historian and the great scientist have of a fact, that stability which the child's knowledge of the same fact lacks? Certainly not the circumstance that they have repeated the judgment more often than the child; for although this process aids the memory, it adds nothing by way of explanation. Nor is it the circumstance of having merely become acquainted with all and every fact; for mere mass of unassimilated information tends to bewilder rather than to aid the mind, and not all great scientists have brilliant memories. What gives their judgment its truth is the variety of the synthesis in the acts by which the fact is apprehended, judged and rejudged. A scientist, let us say, makes an observation and says to himself, "it drops". His judgment is one of simple perception. He specifies the "it": "The apple drops": A singular judgment. Not only the apple but "all material things drop": a universal judgment. "The moon has a similar position to the earth as the apple, therefore it drops": an analogical inference. And so on. The first simple judgment expands into a complex systematic knowledge, ultimately revolutionising a science. The essential point clearly is the bringing to bear on the fact and those connected with it, of almost every form of intellectual synthesis of which the mind is capable. Therein consists the difference between the truth of the knowledge of the trained scientist and of the blockhead. The system of the functions of judgment it is that Phenomenology studies as subjective content. Hence Bosanquet is right. The Phenomenology (at least of thought) is the Morphology of knowledge. "The conception of Logical Science which has been my guide in the present work is that of an unprejudiced study of the forms of knowledge, their inter-connection, and their comparative

value as embodiments of truth" (Preface to First Edition).

That, however, being so, it is evident that the natural-scientific or historic interest is not the same as the phenomenological interest. To history the difference between the historians and the child's manner of knowing that "Charles I died on the scaffold" has no value except that the former's intelligence enables him to prove what may otherwise have remained open to doubt. If subsequent investigation should show that the historian is everywhere at fault, his intellectual syntheses would for Phenomenology lose none of their truth, though history may be inclined to look on him as a most dangerous person whose cleverness serves only the ill-purpose of perpetuating error.

Strong proof of the uniqueness of subjective content and the exclusiveness of the phenomenological sphere is afforded by the fact that such content is an identity in difference. The principle of identity in difference we have already found to be theoretically self-contradictory. But it certainly describes the subject-matter of Phenomenology. Take the instance of the master scientist. All that richness of content as it lies ready at the back of his mind guiding his experiments and lending authority to his utterances, how else is it to be described than as an interpenetrating plastic whole? And Bosanquet has well shown that this strain of identity in difference runs through all the various types and functions of judgment. Again, the meaning contained in Shakespeare's Hamlet is admittedly inexhaustible. But is this inexhaustibility calculable by logical law or mathematical formula? And yet it has a unity and as such can only be an identity in difference, a phenomenological fact. This principle is also embodied in the doctrine of "internal relations". Bosanquet prefers to call the relations relevant instead of internal. The point is that the relations make a difference to their terms; they

are connected with the properties of the terms in such a way that any alteration of the relations involves an alteration of the properties, and vice versa (Vol.II p.277). In the content there are no hard independent impervious ingredients. Every part permeates and is permeated by every other part.

That there is thus a fundamental difference between phenomenological truth on the one hand and real truth on the other seems to us scarcely disputable. Bosanquet, however, denies that the difference is fundamental; but before examining his treatment of the problem, we will first attempt to define the difference more precisely. We do so by recurring to a distinction which we introduced in the course of our second chapter, namely, that between constituting and determining. The difference then is this, that in virtue of the intentional character of subjective content, the act of judgment constitutes its truth. On the contrary, in the case of natural science, the given facts determine their truth. It is determination then that sets bounds to the world of phenomenological truth. A fact for Phenomenology means what judgment makes it to mean. It is what in the objective reference it is constituted to be. On the other hand it also happens that unless there is, to begin with, a fact there can be no knowledge or truth of the fact. These facts exercise a continual control over the advance of knowledge and if need be correct it by rejecting the content affirmed of it by the judgment. When the facts thus acquire the initiative over knowledge, our criterion is no longer phenomenological but real. They determine the kind of truth according to the methods of Natural Science.

Here then we seem to be up against an ultimate dualism which cannot be bridged over. Bosanquet, as we remarked, is anxious to make it appear that the gulf is only apparent. Let us consider again the case of the categorical judgment. The fact "it is cold" we found to possess truth in an absolute sense,

which distinguishes it from the phenomenological judgment 'it is cold'. But Bosanquet endeavours to explain this absoluteness as the lowest degree of logical stability. Now relevancy or relativity is the essence of logical stability. Hence he is perfectly consistent with himself when on page 143 (Vol.I) he maintains that absoluteness and relativity are not incompatible. The difference is merely between more and less complete logical stability. "The implication of real existence which attaches to the content of the ordinary generic and universal judgments seem to me to be of the same kind as the implication of existence which accompanies the demonstrative 'this' 'here' or 'now'." In conformity with the criterion of logical stability this implication of existence is weakest in the judgment of sense. But, we ask, is it not a fact that there is a certain implication of existence in demonstrative judgments which is much stronger, more direct and final than in any species of universal judgment (e.g. in the hypothetical judgment? Does not this point to the conclusion that in addition to a faint degree of absoluteness in the sense of logical stability, another kind of absoluteness reveals itself in judgments of sense, unaccounted for by Bosanquet's Logic? We think it does, and this is the sort of absoluteness, the determinative power characteristic of the facts and truths of Natural Science. A further instance may serve to enforce this distinction between real and "subjective" truth. The law of gravitation is true: This means for Science that, given a set of real conditions and things with defined properties, a certain relation holds between them, and no repetition of the things and conditions will occur without the relation. Repetition of identicals is the very test of the truth of the law of Science. Not so in the case of phenomenological truth. If any repetition of an identical set of conditions occurs without the law the attitude of the Scientist is to say that the <u>law</u> is wrong,

whereas the attitude of the Phenomenologist is to declare that the things and conditions are irrelevant. In fact, for the latter repetition itself is mostly irrelevant, superfluous and tedious. And the reason is that in the latter case the particulars obtain their whole meaning and truth from the universal and the whole. What matters for truth is the place of a thing in a system of knowledge, and not its invariable and repeated occurrence.

Thus far we have been mainly engaged in tracing the distinction between the truth-spheres of Phenomenology and Natural Science. Is it possible, we must now ask, to indicate with like precision the difference between Phenomenology and Theoretic Science. Our answer must again be in the affirmative. But here we find our task complicated by a circumstance which is absent in the former case, and which prevents us applying the same principle of distinction which we there found adequate. The distinction between Phenomenology and Theoretics cannot likewise coincide with that between what constitutes and what determines, for the obvious reason that, as we saw in Chapter II, the theoretic entity is a unity of both constitutive and determinative elements. In some way or other "intension" as well as "extension" play an essential part in mathematical truth. But we have already in the course of the previous chapter come across some evidences of a radical and fundamental difference between phenomenological and theoretic truth. We propose to devote Part III to an examination of the criterion by means of which we are able to define the sphere of Theoretic Science. But in order to clear the way it would be helpful if we first indicated how the line of difference is not to be drawn. We refer to Bosanquet's attempt to distinguish between his Philosophical Logic and Russell's Symbolic Logic.

The manner in which Bosanquet goes to work at the problem is "to ascertain the precise point of divergence at which Formal Logic, construed as including pure Mathematics, parts company from the sort of Philosophical Logic that is aimed at in the present work"[1]. This implies that Theoretic Science branches off at a given point from the parent phenomenological stem. The point in question he finds to be at or just after the hypothetical judgment. In fact a theoretic proposition is in its essence a hypothetical judgment. "The divergence between Symbolic Logic including pure Mathematics, on the one hand, and what I call Philosophical Logic on the other ... would appear to take place at the point where the theory of the hypothetical judgment has been explicitly laid down, exhibiting for the first time an embodiment of implication as distinct from mere subsumptive conjunction" (p.44). As against this view, it need only be pointed out that conjunction, i.e. the class-proposition is as much a mathematical fact as implication, so that even granting Bosanquet's general position, the point of divergence cannot be where he locates it. Moreover "implication of q by p" means "either p is false or q is true", a proposition which, for the sake of brevity we write "if p then q". Probably this last form misled Bosanquet into interpreting "either p is false or q is true" in the sense of a hypothetical judgment in the phenomenological sense of the term, instead of interpreting "if p then q" in the sense of "either p is false or q is true". But in this latter proposition there is no trace of any hypothetical element. However, even if the resemblance of the hypothetical judgment to the theoretic implication were closer than it is, the fact remains that the difference is not one of degree but of kind, viz. of subjective content and objective theoretic relation. Bosanquet no doubt finds it convenient to describe the forms

1. Logic II p.40.

of subjective content by means of the types of theoretic complexes, just as a student of music often finds it convenient to describe the musical quality or content, say of a sonata, in terms of the theoretic laws of harmony, etc., or even of sound: But it is a mistake to confuse knowledge and objectivity, as if the one were merely a species of the other. For Phenomenology the relation to a mind is essential. In Theoretics the element of mind does not enter into the calculations.

As an illustration of the difference we may compare the fact of disjunction as treated by Bosanquet with disjunction as understood by Theoretic Science. Bosanquet strongly maintains that the alternatives in a disjunctive judgment are exclusive, whereas mathematical logicians following Jevons regard the alternatives as inclusive. But this whole controversy between Phenomenologists and Theoreticists is abortive, for the reason that there is no common ground between the parties. In accordance with the phenomenological ideal the "disjunctive" judgment is not a deductive system at all but a certain evolutionary stage of meaning. The alternatives are really two sides of the stability of one and the same universal content. Therefore Bosanquet is right in holding that negation as it enters into disjunction is essentially significant. Take his example of a triangle. My conception of a triangle is only complete if I know the properties of all the various kinds of triangles, equilateral, isosceles, etc. These various kinds are the mutually supporting alternatives in the whole which is my knowledge of the nature of a triangle. They are all in some way necessary in order to lend weight and finality to my affirmation of the properties of any <u>one</u> of the alternative kinds of triangle. Thus understood, the disjunctive judgment is not a logical disjunction but a special form of ideal content of knowledge. The same difference clearly emerges on a comparison

of theoretic implication with the hypothetical judgment of Phenomenology. Theoretically it is the relation of p to q that matters, and this relation is absolute and unaffected by the "if" of the judgment. The "if" is mostly a sign of a dependence on the mind and expresses a certain degree of doubt, or a special kind of certainty such as that of relativity. But it may also be taken as standing for theoretic probability, in which case the relation of p to q is defined in terms of one or the other of the absolute laws in the Theory of Probability.

The hypothetical judgment seems almost to be a crucial case for establishing the difference between the standpoints of Phenomenology and Theoretics. A closer study of its internal constitution will therefore be worth the trouble. The truth of this judgment is, according to Bosanquet, distinguished from that of other forms of judgment by being essentially necessary. Now it is generally admitted that the theoretic relations of propositions are also by nature necessary. Hence it seems to follow that theoretic truth is so far the same as hypothetical truth. This conclusion appears convincing. But it must be pointed out (1) that by necessity Bosanquet means relativity, and (2) that theoreticists instinctively shun mere relative necessity.

(1) "The hypothetical judgment" says Bosanquet (Logic, Vol.I. p.235) "is distinguished by its essentially abstract character; abstract not merely as thought is said to be abstract when compared with sense-perception" [i.e. as possessing more logical stability than judgments of quality] "but as the thought of an ideally isolated attribute is abstract compared with the thought of a self-dependent and self-related individual" [i.e. as possessing less logical stability than an ideal "disjunctive" system of knowledge] . "Its differentia is that it does not refer to a concrete subject ... and

that consequently we do not consider whether its subject is given in actuality or not. For it is essentially the judgment of necessity or relativity, in which the subject is taken, not given, and taken not for its own sake, nor with reference to its individuality, but for the sake of that which is to follow from it, that is, for the sake of its relativity". It follows, as Bosanquet is at pains to maintain, that the truth of the hypothetical judgment is characterised by reciprocity, since thorough-going relativity requires that the consequent should necessitate the ground just as much as the ground necessitates the consequent, and that therefore both together should form a significant unity. Now the above quotation makes it clear how we come by this relativity. It is by the method of abstraction. This method starts from an immediate concrete whole in which neither diversity nor identity is clearly perceptible, and abstracts some feature which is found by comparison to be common not only to the largest possible number of parts in the given whole but to other wholes. By this process the feature is robbed of its individuality, attenuated or idealised to a point of maximum homogeneity. The only content which is left to it is just this mere relation of identity with some other entities whose only content likewise consists solely in this identity with it. In this way we get complete reciprocity and relativity. This abstract mutual dependence is the kind of logical stability peculiar to hypothetical content.

(2) But whatever services this method of abstraction may render Phenomenology, it can render very little to Theoretics. The wholes of Mathematics, the theoreticist believes, are not homogeneities acquired by attenuating and impoverishing subjective content. Therefore, however much you abstract, your resultant is still subjective content and not theoretic object. On the contrary, he finds that every step forward in Mathematics and Logic is a triumph over meaning or import.

Thus logically the principle a + b = b + a is as true in the mouth of a child as in the mouth of the expert logician. For if to the child's mind the proposition merely suggests the two first letters of the alphabet with strokes between them, then the logician simply says that the child does not understand the principle. The truth of the principle is not relative to the interpretation which any mind might put on it, but absolute. This fact consequently presupposes an absolute criterion, and theoreticists have signalised their belief in such a criterion by having recourse to a non-abstract and non-mediating test, namely, to intuition, which shall give direct and infallible insight into the necessity of theoretic truth. Of modern philosophers no one has laid greater stress on the distinction between the absoluteness vouchsafed by intuitive evidence and the relativity attained by empirical abstraction than Husserl. We believe, however, that he and those of his faith are seriously mistaken in thinking that intuitive insight is a criterion of absolute truth. In fact, such intuitions are so palpably relative to our mental powers, that it is quite inexplicable how anyone could appeal to them in support of a given theoretic truth, unless intuition did indicate some radical difference between necessary and contingent truths. The history of Mathematics shows, for instance, that Mathematicians were deducing precise and exact results by means of the Differential Calculus a century before they gained any intelligible "insight" into its necessity. We shall return to the question of evidence in our last chapter.[1] In the following part of our treatise we shall endeavour to indicate an absolute theoretic criterion of the sphere of Mathematics and Logic. It is none other than the old familiar transcendental argument of Augustinus, Descartes, Kant, Hegel, Bradley, etc. The clue to it we shall find in the Dialectic Method of Hegel,

1 p. 99.

but for our knowledge of its precise nature we are indebted to Russell's Theory of Types which presents us with a precise analysis of the unique contradiction in this transcendental argument.

PART III.

THEORETIC SCIENCE.

Chapter V.

THE DIALECTIC METHOD.

The problem which we propose to investigate is: "Is the dialectic, regarded as a purely deductive argument logically consistent?" We shall have to deny that it is. But to the problem as thus put it may be objected from the outset, that the dialectic method is not an argument of pure Logic at all, and that it is essentially a metaphysical principle. This objection, I suppose, would have the support of the vast bulk of Hegelian opinion. Let us, therefore, examine the main grounds on which it rests. There are two which seem to be of especial importance.

1. It is held that the dialectic is essentially an identity of form and matter, and, consequently, that to sever the pure form from the matter and examine it by itself is to destroy the dialectic altogether. This principle of identity, as we may call it, is, of course, strongly advocated by Hegel himself, was by him inherited from Schelling, and at once accepted by his early followers as the basis of his whole philosophy. Thus J.E. Erdmann[1] asserts: "The distinction between the subjective and the objective is false ... because to think, to understand means to experience the essence of the thing, of the fact itself. And since that which we experience through thinking can be nothing else than thought, i.e., something subjective, it follows that there are determinations of thought, which are just as much subjective thoughts as objective relations of reality." Similarly Michelet, Rosenkranz[2] ("the logical determinations are the determinations of being");

1. Grundriss der Logik und Metaphysik, 1841 (§ 4-6.)
2. Wissenchaft der logischen Idee (1858) p.42.

Ulrici[1] ("necessary thought is itself the object of philosophical thought"), who however denies that Hegel altogether succeeded in unifying the formal and the material element; etc. And this principle of identity of thought and reality also became through the agency of Hutchison-Stirling the cornerstone of British Idealism. Thus Baillie[2], in explaining the principle of Hegel's Logic says: "The method is not external to the content, but absolutely determines it ... It is simply the essential process of self-consciousness made a conscious method of procedure in philosophical knowledge". This principle leads to the doctrine, that the Absolute Idea is the immanent criterion of the world with which it is one, or as it is generally expressed, that Logic is at once also a Metaphysic and that there is no process of intelligence which is not also a determination of its object by categories. This whole view of the dialectic method finds its origin in Hegel, who regards the Absolute Idea and the Dialectic Method as one and the same thing[3].

2. The second great objection against severing the method from its content and treating it as an argument of Logic, is that the Dialectic subsumates the laws of Logic. Dialectic is the method of Reason, Formal-logic that of Understanding, since purely logical distinctions are moments contained <u>in</u> the dialectic whole. The Dialectic thus dispenses with Logic as a formal discipline, and therefore to examine it from the standpoint of Logic is to mistake the first stage of the process, where opposites are still unreconciled and external to each other, for the ultimate unity in which all contradictions are reduced to harmony. "For Hegel Logic, so-called, had nothing in common with the logic of the schools. His logic was the doctrine of the categories, of which logic, in the narrow sense,

1. Grundriss der Philosophie, p.679.
2. Hegel's Logic, p.371-2.
3. Werke, Bd. V. S. 327 f.

constituted only one, or only one group"[1], and the Idea is the concrete-unity of all the categories.

Our reply to this second objection is that in so far as dialectic is a phenomenological function, that is, in so far as the Reason or Idea of which it is the structure is truly an object of Phenomenology, the dialectic is certainly immune from logical criticism. But we maintain that with the dialectic considered as phenomenological content, there has unconsciously been interwoven a pure logical law, whose presence is most strikingly betrayed by the element of contradiction in the argument; and contradiction is at least also a purely logical concern. So far then the dialectic falls within the domain of Logic. Hence we must also deny the cogency of the first objection, at least as against our procedure. The distinction between Logic and Dialectic is not between Form and Content, but between wholly distinct spheres, the theoretic and the phenomenological. Within the latter sphere there may be identity of Form and Content. But, as we saw in Chapter III, Phenomenology is a derivative from Theoretic Science, and (in Chapter II), theoretic law is embedded in the intentional content of the act of judgment. Hence the fact that dialectic is a function of subjective content is no ground why there should not also subsist a purely theoretic law of dialectic, a law certainly not identical with the function, but residing within it. The dialectic of which we shall henceforth exclusively speak is the logical law.

The peculiar characteristic of dialectic thus considered, is that in someway it involves contradiction. Its protagonists maintain that the contradiction is somehow resolved and transcended within the dialectic itself. Its critics, on the contrary, aver that the contradiction is a sure sign that the whole dialectic argument is invalid, and that so far from being transcended by the dialectic, it rather shows the latter to be infected with error. Both parties, however, agree that, rightly

1. B. Croce, The Philosophy of Hegel, p.192.

or wrongly, somewhere within the dialectic texture there is at least supposed to be an essential element of contradiction. The question, then, which we have to decide is as to the exact nature and rôle of the contradiction in the argument. In our answer to this question we shall maintain, that although the contradiction is not always necessary, yet under certain precisely definable conditions its necessity is inevitable. In any case, however, the contradiction vitiates the deductive cogency of the argument. This must be clearly understood. No conclusion can be drawn from the subsistence of a contradiction in the manner in which a conclusion follows from the premisses in a syllogism. But the contradiction has the positive purpose of defining the nature of the terms that contradict.

To our way of looking at the matter it seems that both dialecticians and their critics are guilty of assuming that the dialectic method consists of an inference to a new fact (e.g. a new category) by a deduction containing a contradiction; according to the former party the conclusion sublimating the contradiction, according to the latter party the conclusion itself being quite invalid. As was said, we dispute the assumption that the dialectic is a "deduction" at all, even from the standpoint of pure Logic. But granting for the sake of the argument of the present chapter that the dialectic is a strict "formal" deduction, then we have no hesitation in expressing our entire agreement with critics in their rejection of it.

In reviewing the various theories that have been held regarding the method, one is struck by a remarkable difference between the older school of Trendelenburg and Hartmann, and the newer school of McTaggart and Muscio[1]. The older school assumed that the dialectic is a method which proved the necessity of contradiction, that contradiction is therefore the result or conclusion of the process. According to the newer school, however, the contradiction occurs at the beginning of the dialectic

1. v. infra. p 69

process: It is the cause or ground of the process. At the point where the older critics stopped in order to look back at the wreck to which they supposed themselves to have reduced the process by disproving the necessity of the contradiction, the modern dialectician meets them with the information that, properly speaking, they have not yet even arrived at the method itself, but have, so to say, only been engaged in a preliminary canter. The world is full of contradictions, he tells them, otherwise there would be no use for a law of non-contradiction prohibiting contradictions, and each of these contradictions might be the cause of a dialectic process. We shall first deal with the criticism of the older school which sets out on the hypothesis that the dialectic claims to be a logical argument by which a contradiction is validly and necessarily deduced.

The only possible refutation of the dialectic as thus conceived is, we believe, to be found on pages 105-6 of Trendelenburg's "Logische Untersuchungen", and it is a pity that B. Muscio in his article in "Mind" does not see his way to profit by that refutation. Trendelenburg places the dialectic "before the tribunal of common Logic ... In the identity which enables the posited notion and its contrary to pass to a higher unity one recognises the second figure of the Aristotelian syllogism, the dialectic, however, illegitimately employing that figure to establish a positive conclusion. For example

Pure Being is immediate,

Not-Being is immediate,

Therefore Not-Being is Pure Being.

Or, if we transpose the premisses, Pure Being is Not-Being ... But deductions in the second figure which give positive conclusions are fallacious." The fallacy is, of course, one of undistributed middle. When it is said that the dialectic argument is "contradictory", contradiction is used in a lax

sense which may include any kind of logical fallacy.

An important point about this refutation, - a point which critics of the dialectic method mostly fail to grasp, and it is doubtful whether Trendelenburg himself grasped it - is that the notion (the middle term) in which the identity of the contrary notions is supposed to consist, is itself not a category in the dialectic triad. Thus Hegel's first triad reads: Being, Not-Being, Becoming. There is no mention of a category of "Immediacy". We shall return to this point later on, and now proceed to consider the tactics of that other most unsparing critic of the dialectic, E. v. Hartmann.

The attitude of this author is frankly one of despair and amazement at the "krankhafte Geistesverirrung" of the dialectician who is never content with any truth unless it is a contradiction. "Hence" says Hartmann "it is quite impossible to make the genuine dialectician perceive when you have reduced his argument to an absurdity; because at the point (i.e. with contradiction) where for other people absurdity is reached, there begins for the dialectician that wisdom which alone inspires his affections"[1]. The only course is to <u>frighten</u> him by bringing him face to face with the sheer enormity of the consequences of his doctrine. We shall not regale the reader by a recital of Hartmann's list of enormities, but merely wish to draw attention to the very characteristic angle, from which his criticism approaches the dialectic, namely, from the assumption that contradiction is the be-all and end-all of the process, and that the dialectician believes that the contradiction is resolved by the fact of its having been proved necessary. The logical refutation[2] which Hartmann gives of the dialectic deduction, in his chapter on "The Contradiction"

1. Uber die Dialektische Methode, 2 Aufl. 1910. S.43.
2. especially page 75.

is substantially the same as that of Trendelenburg, although it lacks the necessary precision. Granting, for the sake of argument, the validity of the said assumption, we own that we find ourselves in full accord with the criticism of these authors of the older school.

But a new complexion has been put on the problem by McTaggart who places the contradiction at the beginning and not at the end of the dialectic process. It is its cause or ground, and not its result. He, too, clings tacitly to the assumption, that the dialectic method is a deduction, by which from two contradictory terms a third term is made to follow by way of solution, and therefore we shall be forced to differ from him. But we beg to submit, that McTaggart's arguments still await a serious refutation, at least from the standpoint of pure Logic. Such a refutation has been attempted by Bernard Muscio in Mind N.S. 23, but he seems to us to miss the point at issue.

The great value of Muscio's criticism is that it represents a well-meant attempt to distinguish between the phenomenological and the theoretic aspects of the problem. "The theory here put forward" he says (p.538) "is that the dialectic is a treatment of the question of meaning." Unfortunately, the question of meaning is for him mainly a psychological one, and this in spite of the teachings of the great British exponent of Phenomenology, Bosanquet. "The dialectic, so far as it is valid, is [for Muscio] simply a description of certain psychological phenomena, namely, of the growth of meanings and the relations between them" (p.541). The Heracleitean flux of the categories in Hegel's "Logic" proceeds from the principle of "indiscernibility of meanings" of "identity in difference" which, in Part II we found to be characteristic of subjective content. But this process is not, as Muscio would have it, psychical, or a development of psychological phenomena.

Obviously, the distinction between Phenomenology and Psychology is foreign to his way of thinking.

But it is the logical problem with which we are here concerned, especially as regards the function of contradiction in the method. In his conception of this problem Muscio belongs to the modern school. "Hegel, and his followers, definitely assert that they consider certain contradictions, arising, it is said, inevitably, as the cause[1] of the dialectic process". His criticism is therefore aimed at the school of McTaggart. But he at once evades the point at issue. Instead of proving, as one would expect him to do, that the contradictions do not cause the process, he attempts to prove that there are no necessary contradictions at all; for, says he, with the disappearance of the contradictions the dialectic has nothing to cause it, and therefore also disappears. Now, this is drawing a herring across the trail. Muscio will surely not deny that all thought is prone to error, and that the best of us are constantly guilty of contradictions. For the modern dialectician the necessity of such contradictions is, although an important, yet a secondary question. The latter starts from the given fact that there are contradictions, and that these contradictions are solved, or resolved. But what he maintains is, that these solutions which everybody is so eager to apply to detected contradictions, are essentially dialectical, in other words, that the third term which solves the contradiction is logically deduced from the contradiction of the two terms. Hence, if Muscio really means to refute the modern dialectician, he has to show, not that there are no necessary contradictions, but that the solution of the contradictions which nevertheless occur, is not dialectical.

Muscio, however, undertakes to show that there are no contradictions, and in so far must again be classed with the

1. Muscio's italics.

older school. We have already expressed our belief that the only valid refutation of the dialectic, considered as the deduction of a contradiction, was given by Trendelenburg. But Muscio offers a new argument by way of refutation, which it is of interest to examine. The categories, the dialectician is supposed to hold, are predicates which we predicate of things, and Muscio objects, that the dialectician commits the error of predicating contrary predicates or categories of the same subject. It is perfectly plain from Muscio's discussion that the subject of predication is not a category but some given fact. But, we must point out, whatever be the opinion of the Hegelians against whom his polemic is directed, in Hegel's own Logic the categories never appear as predicates but always as subjects about which a property is predicated. They are positive self-subsistent entities, quite as substantial in their own way as any stone or tree in the real world. At most, by the evil necessity of the dialectic, one category comes to be predicated of another category, only to be again freed from this predication-form. It is not indispensable for the dialectic that they should be predicated of something non-"categorial" (if this convenient germanism be allowed).

As to the argument itself, Muscio refutes it in the following way: Let P and Q be categories and S any subject not a category. Then either P and Q are contraries or they are not and are identical. If they are contraries, we cannot predicate Q in predicating P; but if they are identical we predicate Q in predicating P. Therefore contraries cannot be identical. (p.527, § 11). Now this is really no refutation, since the conclusion is only a repetition of the major premiss according to which contraries are not identical. Such repetition may, as a mild form of Hartmann's policy of frightfulness, serve to impress the mind with a wholesome dread of identifying contraries, but does not refute anything. The real point at issue is whether

it is possible to argue from an element of identity in two categories, that is, from a common property, to the identity of these categories themselves. This Trendelenburg denies on the ground that unless every property of the one is also a property of the other, that is, unless the middle term is distributed, which it is not, no identity results. And Trendelenburg is right, on the assumption that the dialectic is a deduction. But, and here we are anticipating the arguments of our next chapter, as a matter of fact a case may arise in which P and Q are such that it is impossible to predicate every property of the one of the other, or if it is possible then in so far there is a neeessary contradiction. For instance in the proposition "every property of P is a property of Q", the property of P denoted by the phrase "every property of P" is itself not a property of Q. But the definition of the identity of P and Q demands a predication of every property. Hence a perfectly distributed middle cannot by the nature of the case be realised, and deduction is rendered abortive. A genuine identity seems thus to be a self-contradiction, which is precisely the conclusion which the dialecticians were maintaining all along. This is the problem which we reserve for our next chapter. For the present, however, we pursue our enquiry on the assumption that the dialectic is a deductive argument. But before we undertake to show, what Muscio fails to do, that no contradiction ever causes a dialectic process, that is, that the solution of no contradiction is dialectical, we should like by way of a digression to call attention to the fact that the middle term in the deductive argument is not a member of the dialectic triad.

Almost the only middle term which modern metaphysical Idealism of the Bradleian type (in so far as it may be said to have syllogistic form at all) permits is the ultimate whole. Now Bradley professes to despise the dialectic method; yet his

arguments from this whole are, logically considered, thoroughly in accord with the dialectic principle, for the "whole" is not regarded as on a par with the other terms. "An idea prevails that the Dialectic Method is a sort of experiment with conceptions in vacuo. We are supposed to have nothing before the mind but one single, isolated, abstract idea, and this solitary monad then proceeds to multiply by gemmation from or by fission of its private substance, or by fetching matter from the impalpable void. But this is a mere caricature, and it comes from confusion between that which the mind has got before it and that which it has within itself. Before the mind there is a single conception, but the mind itself, which does not appear[1], engages in the process, operates on the datum, and produces the result. The opposition between the real and the fragmentary character in which the mind possesses it, and the true reality felt within the mind, is the moving cause of that unrest which sets up the dialectical process" (Bradley, Logic, p.381). Plainly, this true whole is not a member in the logical system of finite ideas or conceptions, it is rather the internal ground. And if we interpret the above, as it is no doubt not meant to be interpreted, i.e. as a logical argument, that since two finite terms are predicatively related to the whole, therefore they are predicatively related to each other, we have Trendelenburg's fallacy of the undistributed middle. McTaggart fully approves of Bradley's doctrine[2]. And on turning to his "Commentary on Hegel's Logic", we find that the above is at bottom the argument which he employs in the first triad, and may be stated thus:-

Being is the most immediate aspect of full reality, Not-Being is the most immediate aspect of full reality; Hence the contradictory conclusion (that Being is Not-Being) which is the "cause" of a

1. Italics ours.

2. See his "Studies in Hegelian Dialectic, p.33 and 48.

dialectical solution. This is one of the few triads in which McTaggart makes use of the ultimate whole as middle term. In the other triads he has mostly other notions as middle terms, but these are seldom one of the triadic categories.

We return now after the above digression to the main subject of our discussion, which is McTaggart's theory that contradiction is the cause of the dialectic process. He is at all events not afraid to let the dialectic run the gauntlet of Logic. On the contrary, "if the dialectic rejected the law of contradiction, it would reduce itself to an absurdity, by rendering all argument, and even all assertion unmeaning. But dialectic, however, does not reject that law. An unresolved contradiction is, for Hegel as for every one else, a sign of error ... An unreconciled predication of two contrary categories, for instance Being and not-Being, of the same thing, would lead in the dialectic, as it would lead elsewhere, to scepticism, if it was not for the reconciliation in Becoming"[1]. "The dialectic movement is only the movement of logic, such as may be said to take place from the premisses to the conclusion of a syllogism."[2] Reason has to justify itself at the bar of the Understanding[3]. Thus, according to McTaggart, Dialectic pledges itself to abide by the verdict of Logic.

The contradiction then "causes" the process. (It is, of course, quite improper to speak of a contradiction as causing anything, but we suppose McTaggart means by cause, the logical ground or premiss). What is the conclusion that is thus caused? "The contradictions are the cause of the dialectic process. But they can only be this if they are received as marks of error. We are obliged to say, that we find the truth of Being and not-Being, in Becoming and in Becoming only,

1. Studies in Hegelian Dialectic, p.9.
2. ibid. p.105.
3. ibid. p. 15.

because if we take them in independence ("as an artificial and unreal abstraction"), and not as synthesised, we find an unreconciled contradiction" (P.10) "It is the contradiction involved in the impossibility of predicating a category without predicating its opposite, which causes us to abandon that category as inadequate" and "drives us to remove the contradictions by combining both extremes in a synthesis which transcends them" (p.5). Let us translate this into logical language: We have to begin with the deduction: Being is immediate, not-Being is immediate, therefore not-Being is Being. This conclusion, McTaggart maintains, involves a contradiction, and Trendelenburg has shown wherein the fallacy consists. Now, what according to McTaggart the contradictory conclusion "causes" is the concretion of the terms Being and not-Being, that is, the predication of every other property besides immediacy of both of them. It proves, in other words, that Being and not-Being have not merely one isolated property in common but many others, namely, those whose totality = Becoming, and that beside these they have no other. Now, if in accordance with the doctrine of internal or relevant relations we regard the full content of Becoming as expressing the very essence of Being; similarly, if not-Being be regarded as finding its full definition in the very nature of Becoming, then our middle term would be distributed, every property of Being would also be a property of not-Being, and the conclusion that not-Being is Being would be valid. We thus argue from the fallacious conclusion of a syllogism with an undistributed middle to a middle term fully distributed and expressing the essence of major and minor terms. Because for a certain definite reason a proposition is false, we infer a reason which makes the proposition true. That is, logically, what is meant by McTaggart's assertion that the contradiction of two categories is the cause of their synthesis, and in this way the dialectic

is the deduction of a third term from the contradiction of two terms.

It is almost superfluous to point out that "formally" we can infer no such thing as a distributed middle term from a conclusion which is contradictory for the very reason that the middle term is undistributed. Yet we do infer something in the case under consideration, and this is the point on which we desire to lay particular stress. We infer that the syllogism in question is an illegitimate mode of the second figure. Although we thus cannot argue to any new property of the terms in the premisses, we do infer something about the nature of the syllogism as a whole, namely, its being a logically illegitimate mode. Further, we may also infer that "if our middle term were distributed then our conclusion would be valid". But whether or not the middle term can be distributed is entirely a question of material knowledge, to be discovered by the investigation of facts and not by theoretic argument. To affirm the consequent gives us no right to affirm the antecedent. But this is precisely McTaggart's fallacy: affirmation of the consequent, an entirely different fallacy from that discovered by Trendelenburg.

But although McTaggart's argument is thus fallacious when considered as a deduction, it has nevertheless given us an extremely valuable clue as to the function of contradiction in Logic. It is not, so to speak, a premiss or a ground but a test of logical truth. It reflects on the nature of the argument and discriminates between the logically permissible and the non-permissible. Being the sign of logical error, a contradiction is the absolute sign of some particular logical characteristic, namely, that of logical error. This suggests the question, whether it is not possible to generalise this test, and make it not only the criterion of some particular logical quality, but of logicality as such. It would seem

that the task of generalisation of a test must be much less difficult than the discovery of the test. The next chapter will show that there are really no insuperable difficulties in the way of such generalisation.

Chapter VI.

The Logical Criterion.

The question, then, is whether, working on the clue afforded by the dialectic, we can find a criterion which will enable us to decide in the case of any given entity, whether it is theoretic or not. We have already hinted where we propose to look for a satisfactory solution to this problem: In Russell's Theory of Logical Types. And the reason is fairly obvious. This theory is propounded by Russell and Whitehead in the "Principia Mathematica" in order to enable them to deal with a contradiction, which in Russell's "Principles of Mathematics" was found to baffle explanation. Perhaps we may succeed in showing that it possesses a certain importance which Russell does not attach to it.

The contradiction itself in one form or another is familiar to everyone and very old indeed. Consider the proposition "all paintings are false", and compare with it the assertion "all propositions are false". Viewed externally both these propositions would seem to be of the same general type or form. But a closer examination reveals a remarkable difference, namely, that the latter proposition is self-contradictory, while the former is not. The latter asserts that "all propositions are false" but this assertion in inverted commas is itself a proposition, therefore it must be false. But it can only be proved to be thus false on condition that it is to start with quite valid: Clearly a self-contradiction. From such a contradiction the first of the above-mentioned propositions is free. "All paintings are false"; but this does not involve the falsity of the statement that "all paintings are false". It is plain, that the contradiction in question is of the nature of a vicious circle, except that an ordinary petitio principii consists in proving a proposition to be true (or false) by an

argument which first assumes that proposition to be true (or false), while in the present case the falsity of a proposition follows necessarily from the implication of its truth. Contradictions of the latter kind we shall call transcendental.

The above comparison of the two cases mentioned demands an explanation of the remarkable difference thus revealed. Why, it may be asked, does the proposition "all propositions are false" contradict itself, and the proposition "all paintings are false" not? The answer is, that we know what is meant by the words "propositions" and "paintings", and that we recognise that "all propositions are false" is an instance of what is meant by a proposition, and is, therefore, also referred to in the phrase "all propositions", while we know that "all paintings are false" is itself not what is meant by a painting, and therefore not included in the class of paintings.

Now this answer is so simple and so obviously true, that we almost fail to see its important consequences. In fact, unless we are careful, the validity of the answer may be upset altogether. Because Logic can take no cognizance of the content denoted by the terms of its propositions. Thus, whether the subject of our proposition be paintings or propositions or cats or what not, can make for Logic not the slightest difference, since Logic is concerned only with the pure "form", i.e. only with logical entities and its forms, and not with the external content or meaning which propositions convey to their hearers. That is the reason why Logic and Mathematics always operate with mere symbols. The advantage of the symbol is, of course, that it is a safeguard against introducing irrelevant material considerations into the logical argument, and not because Logic treats of mere words and symbols. If this latter were the case, then the deduction, A is B, B is C, therefore, A is C would be entirely different from the deduction X is Y, Y is Z, therefore, X is Z, on the ground that the letters are

different, whereas, in fact, the deductions are logically the same. Therefore, whether the subject in "All x is false" be paintings, or propositions, or anything else, seems on these grounds to be a matter of logical indifference. "Paintings" or "Propositions" would be merely cumbrous symbols for logical entities.

It follows that we cannot explain why "all propositions are false" is self-contradictory, whereas "all paintings are false" is not, by taking the meaning of the subjects into consideration and saying that because "all propositions are false" is an example of what is meant by a proposition, therefore it is contradictory, while "all paintings are false" is not a painting and therefore consistent. Thus the difference between the two propositions would be simply annulled instead of explained. But there can be no doubt about it that the difference which we have noticed is valid. Hence we must find an explanation which shall do no violence to the symbolic procedure of Logic, and yet not nullify the difference.

For such an explanation we must hark back to a distinction which we made as far back as our second chapter, namely that between constitution (or reference) and determination. Every perfect logical term, as we shall see more fully below, is a composite of an element of reference and an element referred to, or more correctly a determinant. In so far, then, as the subjects which occur in the above propositions are truly logical terms, that is to say, symbols for logical entities, they must possess both these elements. The previous difference between self-contradictory and non-contradictory propositions can now be explained without difficulty. The subject in "all propositions are false" is an entity in which <u>referent and determinant are identical</u>. That which in general is referred to by the term "proposition" is itself of the nature of a proposition. In other words the reference is a self-reference.

Proposition is itself a logical entity as much as the reference implied in it. But the subject in "all paintings are false" is not a self-reference. It refers to a real extra-logical thing, whose material content is a matter of indifference to Logic. Therefore in the latter case no contradiction arises. But in the former case a contradiction is unavoidable, for the reason that the identity of referent and determinant makes it necessary to take into account at one and the same time, the reference as well as the logical object referred to[1]. This is the thesis which we intend to elaborate and develop in the present and the following chapters - As a matter of terminology it must be pointed out, that we shall henceforth distinguish between reference which is a purely theoretic function and intention which is its phenomenological equivalent. Constitution will then be a general term for either indifferently. Thus in the phenomenological sphere the constitutive function is intentional, whereas in the theoretic sphere it is referential.

Truly logical entities are, then, according to the above explanation, essentially connected with a transcendental contradiction. Hence we may say, <u>that the transcendental contradiction is an absolute logical criterion by which we know that the entity concerned is a truly logical one</u>. An illustration will show that this test is of considerable practical importance, since it enables us infallibly to detect a theoretic entity. Compare the statements, "all of us are mortal", with "all of us are liars". In the latter statement there is a vicious circle, for I who make the statement is one of us, therefore a liar, and consequently it is a lie that all of us are liars. In accordance with our criterion we conclude that the "us" here referred to is a logical entity. But the assertion "all of us are mortal", evidently does not contain the contradiction. Yet <u>grammatically</u> there is no indication that in the first instance we have to do with a logical entity, and in the

1. This statement is not quite accurate, but serves our present purpose. (v. infra p. 89)

second case with a psychical entity, for in both cases the symbol for the logical subject is "all of us." The importance of having such an absolute test of the logically subsistent is evident in the example before us, where failure to see the necessity between the logical being, called the "ego", and the psychical being (the real consciousness) has led to much confusion of thought.

The distinction between the referential and the determinative factors is thus of fundamental importance for the understanding of the transcendental contradiction. We shall now attempt an exact analysis of this contradiction in the light of Russell's researches. All we have to do is practically to bring our view into line with his results. We have in mind, of course, his analysis of the propositional function. In this function the reader will recognise our reference-factor, and in the values of the function our determinative element. As we feel ourselves quite incompetent materially to improve upon the analysis of the propositional function as given by Whitehead and Russell in "Principia mathematica" we may be allowed to quote the passage somewhat in extenso.

"Let ϕx be a statement containing a variable x and such that it becomes a proposition when x is given a fixed determined meaning. Then ϕx is called a 'propositional function'; it is not a proposition, since owing to the ambiguity of x it really makes no assertion at all. Thus 'x is hurt' really makes no assertion at all, till we have settled who x is. Yet owing to the individuality retained by the ambiguous variable x, it is an ambiguous example from the collection of propositions arrived at by giving all possible determinations to x in 'x is hurt' ... Thus 'x is hurt' is an ambiguous value of a propositional function When we wish to speak of the propositional function corresponding to 'x is hurt' we shall write '$\hat{x}$ is hurt' ". By specifying the various individual existences of x, that is, a, b, c, of whom it

is true that 'a is hurt', 'b is hurt', 'c is hurt', we get the range of values of the propositional function. These values 'a is hurt', 'b is hurt' are unambiguous values of the propositional function 'x is hurt'. "More generally, ϕx is an ambiguous value of the propositional function $\phi\hat{x}$, and when a definite signification a is substituted for x, ϕ a is an ambiguous value of $\phi\hat{x}$". For example let ϕ a = 'Socrates is mortal', ϕ b = 'Plato is mortal', ϕ c = 'Aristotle is mortal', etc. Then ϕ a, ϕ b, ϕ c etc., are the unambiguous values of the ambiguous value ϕx - ambiguous, because it is utterly void of determinate meaning, but may be either ϕ a or ϕ b or ϕ c indiscriminately, but no one rather than another. We call ϕx a variable. And lastly $\phi\hat{x}$ will be the definite reference to any one but no one in particular of the values of the variable ϕx. It must be observed that $\phi\hat{x}$ is itself not variable, but is the fact of ambiguous reference, which fact itself is perfectly definite, stable, and self-identical. It is, so to speak, that noumenon of the variable ϕx, which prevents ϕx from being split up and vanishing into its values (p.15, and 41).

With this analysis of Russell's there is, of course, no fault to find, except a little awkwardness in terminology, which tends to obscure an important point, namely, the fundamental position of what he calls the ambiguous value ϕx. This ϕx is really the true and full-fledged logical entity composed of the reference-element or function $\phi\hat{x}$ and the determining elements ϕa, ϕb, ϕc. The referential and the determinative elements together go to compose the unity of this central fact ϕx, which is nothing but a <u>variable</u>. It seems best not to call the variable an ambiguous value, for the only values which there are, are ϕa, ϕb, ϕc, etc.; moreover, such a designation suggests the idea that $\phi\hat{x}$ can also refer to ϕx as a value (albeit an ambiguous one), much in the same way as it refers to the (unambiguous) values ϕa, ϕb, ϕc, etc. But this is not the case. Since clearness on this point is not unattended by

advantages to the understanding of the doctrine of the variable, it must be borne in mind that, when in future we speak of " $\phi\hat{x}$ referring to the variable ϕx", this must be taken to be equivalent to " $\phi\hat{x}$ is that element of the variable ϕx, which refers to the elements ϕa, ϕb, ϕc, etc., of ϕx, which are values determining the referring function $\phi\hat{x}$." As to the logical definition, verbally stated, of a variable, Russell has explained that the term "variable" and the simple term "any" are synonyms. Thus the "variable ϕx" means just "any ϕx". And "any ϕx" denotes ϕa or ϕb or ... or ϕz, where "or" has the meaning that it is irrelevant which one we take (Principle of Mathematics, p.59); thus precisely as the variable ϕx is symbolically defined above.

It is natural that this dualism within the variable should impose certain restrictions on the free use of the variable,and that, consequently the variable should assume a different signification according as its determinative or its referential constituent predominates. Russell, following Peano, has made a special point of tracing the logical variations produced in deduction by the above dualism, and has thereby been led to introduce the important distinction between the real variable and material implication on the one hand, and the apparent variable and formal implication on the other hand. In the light of the little alteration which we introduced into the terminology, the distinction between the real and the apparent variable can now be quite simply stated.

We shall first consider the case of the apparent variable, that is, the case involving the reference-constituent. Take, for instance, the expression "no ϕx" or " ϕx never". What does this signify? Either of two things, according to the constituent concerned.- 1. If regard is had solely to the referent, then "no ϕx" is to be interpreted as "no $\phi\hat{x}$". Now we know that $\phi\hat{x}$ stands for the definite, unambiguous fact of

reference, which is single and absolute. Hence "no ϕx" is simply equal to "not the definite referent $\phi\hat{x}$", The contradictory of "no $\phi\hat{x}$" is therefore "$\phi\hat{x}$," just as the contradictory of the term "John" is "not-John". The point which we desire to emphasise is that $\phi\hat{x}$ is a single, indivisible whole, and that it consequently possesses no variability whatsoever. When ϕx is thus interpreted solely in the sense of $\phi\hat{x}$, we shall call it the principle of the apparent variable. Russell, of course, does not explicitly recognise a principle as distinct from the apparent variable. By apparent variable he means generalised propositions or phrases like "all ϕx", "some ϕx", "no ϕx". But it seems to us that the essence of the apparent variable does not consist in the generalising adjectives all, some, no, but rather in the use of the variable ϕx as identical with its function $\phi\hat{x}$. The apparent variables are then merely special forms of which the principle is susceptible.

Furthermore, in so far as the objective range to which $\phi\hat{x}$ refers is constituted wholly and entirely by the reference and as every determinative mark is, if not entirely eliminated from the constituted sphere, then at least reduced to an unessential adjunct, this objective sphere or range has the same properties as the referent. Since such a range has no property which is not imparted to it by the referent, it is also single, absolute, unambiguous. Hence for the purposes of Logic $\phi\hat{x}$ and its pro tanto field of reference may be taken as identical in respect of their determinateness and indivisibility. We arrive at the same results by starting from the example "all ϕx" instead of "no ϕx". Here "all ϕx" interpreted as identical with "all $\phi\hat{x}$" means simply "the whole $\phi\hat{x}$", in that non-collective, intensional sense which "all" bears in phrases like "all today". In fact "all $\phi\hat{x}$" or "all ϕx" is really a redundant expression, if it be employed to define the essence or principle of the apparent variable, though, of course, its addition to the

variable ϕx, in virtue of which we call the latter an apparent variable produces results entirely different from its addition to a real variable like ϕa (v. infra). The contradiction of the principle of the apparent variable i.e. of "all $\phi \hat{x}$", is "no $\phi \hat{x}$".

2. If, however, regard is had not to the referring, but to the <u>determining</u> constituent of the variable ϕx, that is, to the values of the variable ϕx, the situation is radically altered. In this case the reference-function $\phi \hat{x}$, is eliminated, and the principle of the apparent variable is wholly absent. The variable ϕx is here split up into its values ϕa, ϕb, ϕc, for it lacks the unifying bond in virtue of which it can refer to the range as such, and is in fact identical with each of its values. In this case by "ϕx", "we mean ϕa" or "we mean ϕb", or "we mean ϕc" etc. On this interpretation ϕx, having shed its restrictive constituent varies unrestricted by a defined range and is called a <u>real variable</u>. The difference is symbolised by using Roman letters, p, q, etc. to denote the real variable. This difference between the apparent and the real variable is clearly brought out in the case of their respective contradictories. Thus the contradictory of the apparent variable "no ϕx" is not "all ϕx" but "some ϕx", whereas the contradictory of "no p" is "p". The reason for this is that in the case of the apparent variable we have in addition to the individual values a reference factor $\phi \hat{x}$ defining the range of the values, and therefore we cannot affirm or deny any value directly, but must so to speak do it via the reference element, a necessity which gives rise to complications. In the case of the real variable there is no such interfering function between it and its value. Thus, "no ϕx" = "not ϕa or not ϕb or not ϕc etc.", and therefore its contradictory must be "some (one) of the values of ϕx". But not-p, since p is identical with any one of the values we like to choose has as contradictory p.[1]

1. But see below page. 88

It follows from the above distinction between the real and the apparent variable that the deductions concerned with the one must differ in many points from those concerned with the other. These differences are investigated in Principia Mathematica (Vol. I. Part I. Sections A & B). The theory of deduction dealing with the real variable is the theory of material implication; that dealing with the apparent variable is the theory of formal implication.

A variable <u>proper</u> (i.e. ϕ x) as distinct from an apparent and a real variable can now be defined with reference to these latter two. It is the variable which conforms to the principle of the apparent variable in so far as it involves the referring function $\phi\hat{x}$, but differs from the apparent variable in not having the prefix all, some, or no; on the other hand it conforms to the real variable in so far as the individual values are essentially referred to, but differs from it in preserving a reference to the range as a whole as well, a reference which in the case of the real variable is annihilated. This definition will on comparison be found to be exactly the same as that given of the variable ϕx above on page 82 . (Instead of variable proper, we shall speak simply of variable).

A fuller analysis of the variable was, however, unavoidable, in order to show that the transcendental contradiction is not, as Russell believes, <u>in the first place</u> and solely a peculiarity of the apparent variable of the form "all ϕ x" or "no ϕx", but of the variable ϕx itself. The contradiction has always been supposed to be especially connected with the notion of totality as instanced in statements like "all propositions are false", or "all men are liars". Thus according to Principia Mathematica, "the vicious circles in question arise from supposing that a collection of objects may contain members which can only be defined by means of the collection as a whole" (p.39). But although it is true that the apparent variable is subject to self-contradiction, this

peculiar property can be shown to be present even where there is no apparency, that is, even in cases where there is no totality. The essential thing in order to obtain the contradiction is the reference-function on which the principle of the apparent variable is based, and which is of course embodied in the variable proper. This reference factor $\phi\hat{x}$ is quite sufficient to constitute the range of variability of ϕx, and as we saw, when once such a range is constituted, to qualify it further by the adjectives "all", "whole of", or "no" is merely an added refinement leading to the theory of apparent variables, and from the definitory point of view redundant. (c.f. above page 84). If for the moment we suppose x to be a variable, we have the notion of "any x". Here the reference is ipso facto to the unrestricted range of the values of x, to which range of x's, the phrase "any x" will or will not be predetermined to belong. At least the demand for the whole of the range cannot bring the phrase "any x" into the scope of the range as one of its values, if it is not already a value of the range by virtue of the defining function of the variable.

The reason why the contradiction should always have been considered to arise only in connection with apparent variables seems to be largely linguistic in nature. Language has no means of symbolising the function $\phi\hat{x}$, but it has the necessary words to express totality, hence its partiality for the apparent variable in its treatment of the contradiction. But the notion of totality is not indispensable in order to the vicious circle. Consider the transcendental argument already mentioned: "all propositions are false; this is a proposition; therefore it is false; thus its falsehood follows from its truth". Notice that we do not say: "all propositions are false; therefore this is a proposition" etc. "All propositions are false" is a proposition not because of the all-ness of the reference of its subject, but simply because of its propositional

character. For the apparent variable "all ϕx" we may substitute the variable ϕx. Then "ϕx is false" is a value of ϕx, and from this the contradiction follows just the same. Perhaps the best linguistic expression of the variable proper corresponding to "all propositions" is "propositions as such". The plural-suffix s denotes the values of the range and the qualification "as such" stands for the function. Any definite proposition would then be a value of the variable "propositions as such". But the immense advantage of the symbolism which enables us to identify and extract the reference function by means of the sign $\phi\hat{x}$ is obvious . This element is what Russell, in his Principles of Mathematics [1], calls the propositional-concept, and what he distinguishes from the proposition. Unfortunately, owing to what we believe to be defective phenomenological and psychological analysis, he regards the distinction as "being merely the psychological one that we do not assert the proposition in the one case and do assert it in the other." But it would no doubt be unfair to press this criticism unduly.

The transcendental contradiction can now be stated accurately in terms of our symbolism. We are given the variable ϕx with its referring function $\phi\hat{x}$ and the determining values ϕa, ϕb, ϕc, etc. Our proposition is "ϕx is false", which we may symbolise by $\phi(\phi x)$. Now - and this is a particularly weighty point to be further examined in the next chapter - ϕx is such as necessarily to refer to the whole complex "ϕx is false" as one of its values. This "ϕx is false" or "$\phi(\phi x)$" is considered a value of ϕx, not because ϕx occurs in the complex, but because the whole "ϕx is false" is an entity such as is referred to by $\phi\hat{x}$. Hence the illustration on page 85 above is not an appropriate one of a transcendental contradiction. For, "any x", in so far as it can legitimately be considered a value of the range of x at all, is such a value because it is an instance of an x, not because "any x" is itself an x. "Any x"

1. p.526.

is not as such an x because it has got the term "any" in it. But, singularly enough, it is just because the complex " ϕx is false" has got the additional phrase "is false" attached to ϕx in the complex, that it is a ϕx. Linguistically, it is just because "propositions as such are false" is itself a proposition, that it is a value of the variable "propositions as such". But to this point we shall return again. It is granted then that ϕx in virtue of its reference-constituent $\phi \hat{x}$ refers to $\phi(\phi x)$ as one of its values. This is, however, a self-contradiction; for $\phi \hat{x}$ is a constituent of ϕx in $\phi(\phi x)$, and we have one and the same entity figuring both as a referent and a determinant (or value) which is contrary to our definition of the variable, otherwise: Amongst the values ϕa, ϕb, ϕc, etc. of the range constituted by $\phi \hat{x}$ there occurs, implicitly at least, $\phi \hat{x}$ itself, again: The values determine the function, the function is involved in one of these values, namely, in $\phi(\phi x)$, therefore $\phi \hat{x}$ is assumed given in order to determine itself - obviously a vicious circle. In the case of the apparent variable, for example, of the generalisation "all ϕx", or, symbolically, "$(x).\ \phi x$", the contradiction appears as the inclusion of the whole amongst its parts. Thus "$(x).\phi x$" is equivalent to "all the values of ϕx", and since in the case under consideration every proposition is such a value, "the whole of ϕx is false" is a value, that is to say the whole is a part of itself.

It is of interest to observe that the above contradiction amounts symbolically really to an absurdity. $\phi(\phi x)$ is a value of ϕx, and since $\phi \hat{x}$ is a constituent of ϕx, we might characterise the value explicitly as $\phi(\phi \hat{x})$, a symbol which is meaningless. The symbol $\phi(\phi \hat{x})$ "must not express a proposition as " ϕa" does if ϕa is a value for $\phi \hat{x}$. In fact " $\phi(\phi \hat{x})$" must be a symbol which does not express anything."[1] The absurdity may also be shown in another way.

1. Principia Mathematica, p.43.

The relation of values to function is asymmetrical. But if you decide that a function is also to have the character of a value, then the relation in question would be symmetrical. That is to say an asymmetrical relation is also symmetrical, which is absurd.

We may now regard it as established that the transcendental contradiction is a peculiarity to which the variable proper is liable under definitely assignable conditions. But if so, then the problem concerning this contradiction is as fundamental as the problem of the variable itself, that is to say, it touches the very basis of Theoretic Science. On the fundamental position of the variable in Mathematics the present writer's limited knowledge of that science does not justify his venturing a final opinion. But we have it on the authority of Russell, that "the variable is perhaps the most distinctively mathematical of all notions", and again, that "the variable is, from the formal standpoint, the characteristic notion of Mathematics"[1]. That being so, there follows the momentous conclusion, that any peculiarity which is distinctive of the variable is distinctive of Mathematics also. The contradiction is a peculiarity essentially arising out of the variable; it must, therefore, in some way be connected with the very basis of Mathematics itself.

What precisely is it, then, that we can infer from the transcendental contradiction?

In the first place we do certainly <u>not</u> infer the illegitimacy of the variable itself. For our analysis of the variable itself revealed no inherent contradiction. The latter only makes its appearance when the variable occurs in some proposition. Thus it is not ϕx, but " ϕx is false", where ϕx = propositions as such, that is contradictory.

Nor, in the second place, do we infer that every

1. Principles of Mathematics p.p. 89,90.

proposition in which a variable occurs is self-contradictory. The proposition "all men are mortal" is, considered theoretically, wholly free from the taint of contradiction. The reason why this is so, is highly instructive. (a) As a rule this proposition is read wholly in extension. The emphasis falls on the values of the range referred to by the function. It is about the individuals Socrates, John, Mary, etc., that the proposition is asserted. (b) But difficulties begin to arise the moment we give prominence to the constitutive element. This is done in Phenomenology by interpreting "men" as a concept of intentional content. Intention is, as we have previously insisted, a factor akin to reference, both being constitutive. In the case of the term under consideration language has a separate word for the intentional content, viz. "man". Thus "man" is a concept, while men are the individuals who live and die. Now the full meaning or content of the concept man involves the idea of mortality. This fact has often led the logic-books to criticise the universal judgment on the ground that it contains a petitio principii; for, say they, the addition of the predicate tells us nothing new which is not supplied by our knowledge of the subject. It is of course evident, that this petitio principii is closely analogous to the transcendental contradiction. Our reply to this criticism of the universal judgment by the logic-books must be that it is entirely beside the point, because the judgment is not a fact of Logic, but of Phenomenology. Phenomenologically the concept man constitutes that of mortality, and is itself enriched by the latter. In other words, our knowledge of man enables us to see the meaning of mortality, while a thorough appreciation of this meaning increases our knowledge of man. In thorough accordance with the criterion of stability of content the relation here is reciprocal, and there is nothing contradictory or conflicting about the content. But for a more complete analysis of the

phenomenological content involved in the knowledge of $\phi(\phi x)$ we must refer the reader to Bosanquet's "Principle of Individuality etc." p.46 sq.

But now in the third place suppose we take the proposition "x is mortal", which we have seen to be non-contradictory, and put instead of the variable x the notion "any subject", and instead of "is mortal" the predicate "has the property y", then we obtain the proposition "any subject has the property y, in which however the vicious circle breaks out in all its virulence. For "subject - having - the - property - y"[1] is an entity which may itself serve as the subject of a proposition, it is, therefore, also referred to as a value of the variable "any subject". And from this results the transcendental contradiction $\phi(\phi x)$. Now the question is why should there be a contradiction in the case of the proposition "any subject has the property y" and not, except in so far as it is interpreted in the sense of this proposition, in the case of the proposition, "x has the property y"? Because, so we may suppose it to be answered, in the former case you identified x with an objective entity. Yes, but when we interpreted x as individual men, that is, extensionally as the values of its range, there was no contradiction, nor was there logically anything wrong when we gave x the meaning "man". Therefore the contradiction does not in general reside in the object or the meaning assigned: It all depends upon the <u>kind</u> of object or meaning. When it is of the kind calculated to produce a contradiction we shall call it logical. Hence we arrive at the following definition of theoretic subsistence: <u>Any entity for which there is some proposition[2] in which its occurrence amounts to the contradiction $\phi(\phi x)$ is theoretic</u>. This is it that we are entitled to infer from the transcendental contradiction. We infer that the entity is a logical category. Thus $\phi(\phi x)$

1. What Meinong calls an "Objectio".
2. We regard "a is a member of x" and "x is identical with y" as propositions even though they be not of the subject-predicate type.

defines the explicit entities which comprise the sphere of Theoretic Science, and is the long sought-for absolute logical criterion. This conclusion will be further emphasised in the following chapter, and we may fitly close this one with a little illustration. It is often said that the transcendental contradiction proves that there is truth, for every denial of truth must if it is to be true eo ipso presuppose the existence of truth. But this is not precisely what it proves. As far as it goes, it can only establish that truth is a logical category.

Chapter VII.

The Necessity of the Contradiction.

I. Although we have now attained the main result of our enquiry, there still remains the important question as to how the contradiction can be said to be necessary. It is no light matter for Logic to admit an exception to the universal validity of the law of non-contradiction. Let us, therefore, examine the argument of the previous chapter somewhat more closely.

We recall the fact that it is a proposition such as " ϕx is false", where ϕx = "any proposition" or "propositions as such", which is contradictory. Now the issue is quite straightforward. Is " ϕx is false" contradictory? Certainly ϕx is a variable (= propositions as such), " ϕx is false", is a proposition, and therefore one of the values of the variable, in virtue of the unrestricted reference of $\phi\hat{x}$. Hence the contradiction is necessary. The point is whether or not the proposition " ϕx is false" is an instance of a proposition in general. Remembering that the variable proper is not liable to the specific restriction of the apparent variable, we must unhesitatingly decide the question in the affirmative.

Russell, however, denies that there is any necessary contradiction, because $\phi(\phi x)$, if it is a value of ϕx at all, is a value of a different and higher order than the other values His contention in effect is, that in so far as $\phi\hat{x}$ refers to " ϕx is false", it is really not this function $\phi\hat{x}$ that so refers, but a function of the function $\phi\hat{x}$, which may be symbolised by $\hat{\phi}\hat{x}$. This function $\hat{\phi}\hat{x}$ must of course have its own range of values to which it refers, and there must therefore be a variable of which it is the function and which varies over this range. One of these values we already know, namely, " ϕx is false" which we symbolise here by $p(\phi x)$;

and the variable of which p(ϕ x) is a value may be denoted by the symbol ψ(ϕ x). In this way we avoid a contradiction. It is true that "propositions as such are false" is a proposition and therefore false, in other words ~~it is true that~~ "p(ϕ x) is false", but this falsity is of a higher order, because the variable ψ(ϕ x) is of a higher order than ϕ x. But again "p(ϕ x) is false" is also a proposition, and therefore, unless we postulate a function of a still higher order, we shall be involved in a contradiction. What we require is a function of $\hat{\phi}\hat{x}$ such that p(ϕ x) is false shall be one of the values of its range. This is a third order function. Going on in this way we obtain a whole Hierarchy of orders or types. Of course it is only the principle underlying this Doctrine of Logical Types with which we are concerned, and we may therefore neglect the higher orders and examine the second order only.

Let us for the sake of clearness state the above procedure in phenomenological language. We have to begin with the judgment " ϕ x is false". The speaker who makes this judgment, however, does certainly not intend to refer to this judgment itself. The only intention of the judgment is that which is contained in the subject ϕ x and is directed to the values of ϕ x. In order to obtain a reference to this judgment itself an act of self-reflection is required. He must reflect on his judgment, which reflection issues in a reflexive judgment, and is itself a judgment of higher order than the judgment reflected on, that is to say, it expresses a second-order proposition. In other words one proposition about any proposition about reality is not the same as this latter proposition about reality. But, and this is the crucial point "propositions as such are false" is itself a proposition, and therefore also a value of ϕ x. Russell holds that it is a <u>higher order</u> proposition. Nevertheless we must insist that it is a <u>proposition</u>, and the variable ϕ x must possess it amongst its values. It does not

follow, as Russell almost expects one to believe, that because it is a higher order proposition, therefore it ceases to be a proposition, and is thus exempt from the reference $\phi\hat{x}$ of the variable ϕx. We admit, of course, that the function of the function $\phi\hat{x}$, a perfectly legitimate notion, refers to " ϕx is false", but we entirely fail to see how this must <u>prevent</u> $\phi\hat{x}$ itself from also referring to it qua proposition. The fact of " ϕx is false" having a special function $\hat{\phi}\hat{x}$ of its own, does not make " ϕx is false" any the less a proposition and therefore less a value of ϕx. Thus the only way in which $\hat{\phi}\hat{x}$ could serve to solve the contradiction would be to rob " ϕx is false" of its propositional significance. But since it cannot do this the contradiction remains.

In any dire extremity there is always the desperate remedy of suicide. So in the present case the variable might yield its fundamental position in Mathematics in favour of the notion of class. We can escape the contradiction by altering the definition of the variable, and make it to mean not "any", but "any of a certain collection". Thus "any proposition" would mean "any first order proposition", or "any second order proposition". The indefiniteness of the variable would be restricted by the collection. Hence before we can know what a variable is, we would first have to know what a collection is. That is to say the notion of class must be more fundamental than that of variable. But such a course as this not only strikes at the basic position of the variable in Theoretics, but amounts to making the notion of "any absolutely" illegitimate. But according to Russell, "in every proposition of pure Mathematics, when fully stated, the variables have an absolutely unrestricted field: any conceivable entity may be substituted for any one of our variables without impairing the truth of the proposition"[1]. All this would have to be altered.

But fortunately no such desperate remedy is called

1. Principles of Mathematics 7.

for by the contradiction. For it is not the variable as such that was found to be contradictory, but only the variable when interpreted as an explicit theoretic entity. "Any x is mortal" is not contradictory, nor is "any x is false" contradictory, but "any proposition is false" is contradictory. Let us call a theoretic object a category, and - following the German - coin the corresponding adjective "categorial". Then it is only categorial variables that are contradictory, a fact which leaves the vast majority of variables perfectly valid.

This way out of the difficulty seems so obvious that one is rather surprised that Russell fails to adopt it. His failure seems to be due to the simple error of confusing letters and symbols. A symbol refers, but a letter cannot, therefore a symbol may serve as a variable, but a letter not. Yet Principia Mathematica holds that "no statement can be made significantly about 'all a-functions' where a is some given object. Thus such a notion as 'all properties of a' meaning 'all functions which are true with the argument a' will be illegitimate" (p. 58). Obviously it is here supposed that the mere occurrence of "a" in "all a-functions" is enough to invest it with referential or functional properties, and so make it not only a variable but a categorial variable. This "a" as thus occurring is called an argument. It seems to be essence of an "argument" in this sense to be non-referential, a notion therefore at variance with our theoretic and phenomenological analysis of thought and what it expresses. Hence our consistent avoidance of it. Of course, in so far as "a" is a symbol for a category, it is no longer a letter of the alphabet. But regarded as a letter of the alphabet all the properties of "a" form the subject matter of philological investigation. They are real and not theoretic. On the contrary, the contradiction which Russell discovers in "all a-functions" is precisely the test that "a" is a category. His Theory of logical Types is sound in so far as it is founded on

the contradiction, but it is a Theory that is concerned exclusively with categorial variables, and not with all variables still less exclusively with generalised propositions. To suppose otherwise would be a serious mistake.

In concluding this section we must notice a very remarkable fact about Theoretic Science. It is this, that the category which we detect by our test is itself not the explicit object with which this Science is concerned. The only objects which Logic and Mathematics explicitly have before them are symbols, a, x, p, + , < etc. Theoretics, that is to say, always argues <u>according to</u> categories, never about them. Logic, for instance does not concern itself with categories like negation, disjunction, subject, identity, etc., but with that which is negative (not-p) that which is disjunctive (p or q) etc. Only in so far are its deductions necessary. The moment we make these categories explicit and examine them for their own sake, and not implicitly by means of that which they constitute or "intend", there is no longer any logical necessity. Such examination is no part of Logic, but belongs to the Doctrine of Categories, a discipline which has as little a priori necessity about its method as Aesthetics or Botany. This important characteristic of Logic and Mathematics is proof of the correctness of the general principle on which Husserl bases his Phenomenology, and which Theoretics shares with it, namely, that the act of thinking an object gives no direct knowledge of the form of the thought. The form is not identical with the object. Our awareness of the act is wholly different from the act. Thus in Theoretic Science thought only achieves an advance in so far as its attitude is one of reference-to-object, that is to say, as it is symbolic. The further act of reflection by which the inherent categories and principles are brought to light is fatal to the logical attitude. But for that very

reason the contradiction to which such an act of reflection gives rise is innocuous to Logic. The study of the categories for their own sake is, as we have said, a matter for the Doctrine of Categories. And is it not noteworthy, that the most systematic contribution to this Doctrine yet produced - we refer to Hegel's Logik - is conspicuous for the prominent rôle which the transcendental contradiction plays in it?

II. We have now found the absolute criterion by means of which we are able to identify and delineate the sphere of Theoretic Science. It only remains to consider briefly the phenomenological side of the problem, the side which has claimed most attention and given rise to the greatest clash of opinion. It is often held that the characteristic of theoretic truth is its intuitive self-evidence. Here then we have apparently another criterion which claims to determine the domain of Theoretics with exactitude. The whole procedure of Theoretics is abstract and intuitive in this sense. We perceive the truth of a geometrical deduction intuitively. An algebraic proof compels belief on account of its overpowering evidence. Self-evidence is certainly the phenomenological characteristic of that intuitive act in which we become aware of theoretic truth. A comparison of the apprehension of real objects by sense-perception with the apprehension of theoretic objects by intuition reveals the presence of a peculiar quality in the latter case, which is not adequately explained as a mere difference in degree of distinctness or vividness. Clearness and distinctness there certainly are in theoretic apprehension, but it is not the kind of clearness incidental to vivid sense-impressions but it is the clearness of insight which attaches to all acts of spontaneous ideation, such as the flashing on the mind of a solution to a problem in Mathematics or in chess. This association of evidence with such spontaneous acts is precisely what one would expect in view of the prominence

in Theoretics of the reference factor. It need scarcely be pointed out that intuition is also not to be confused with psychological introspection, especially in the sense of selective abstraction. This is an error into which Locke fell when he propounded his doctrine of abstract ideas, by which he explained the nature of a general triangle. Nor is Berkeley's polemic against this doctrine based on any clear view of the nature of intuition. By means of abstraction, in the sense of omission, such as characterises introspection, we never apprehend relations of theoretic necessity.

The above phenomenological distinctions between sense-perception, intuition and introspection raise a number of questions which fall outside the scope of the present enquiry. But there is one question which is particularly relevant to our subject, namely, in how far intuitive evidence is an absolute criterion of such theoretic necessity?

On this question Husserl speaks with two tongues. He certainly holds that the only test we have of such necessity is "die logischen Denkeinheiten durch evidente ideirende Abstraction auf grund gewisser Erlebnisse zu erfassen"[1]. In the last resort the mind has no other means of attaining to certainty regarding the necessity of theoretic truth than immediate evidence. The intuitive act guarantees the "wesensgesezliche" identity of theoretic necessity. In so far Husserl finds himself on common ground with the contemporary "Immanenzphilosophie" of his country. To this view of Husserl it has been objected by Külpe and others, that intuitive evidence is a subjective test, that evidence is after all merely a peculiar feeling of clearness, that such feelings are notoriously deceptive and unreliable, and that they can, therefore, not be the ground of logical necessity. Against this interpretation of his own doctrine Husserl enters a vehement protest. For it attributes

1. Logische Untersuchungen Bd. II. S. 5.

to him the very error against which his whole anti-psychologistic polemic is directed. The feeling of evidence, he maintains, can never be the ground of theoretically necessary truth, in the manner in which one feeling is the cause of another state of feeling. Nevertheless this consideration does not lead him to abandon the conviction that intuitive evidence is our only ultimate test of theoretic necessity. Now the holding of such a position as this of Husserl appears like attempting to sit on two stools at once. Intuitive evidence is to be the ultimate test of the truth of an axiom, and yet it fails to establish the truth of the axiom! We have plainly to decide either one way or the other.

Shall we then maintain with Russell that evidence is merely one of the grounds on which we hold an axiom necessary and true? "In fact self-evidence is never more than a part of the reason for accepting an axiom, and is never indispensable ... If an axiom is apparently self-evident, that only means, practically, that it is nearly indubitable; for things have been thought to be self-evident and have yet turned out to be false"[1]. But this answer can scarcely pretend to be more than a practical makeshift. In principle it suffers from the same defect as the doctrine which it denies, namely, that states of mind are the contributory cause or ground of the truth of theoretic axioms. Husserl, implacable enemy of all psychicalism as he is, would never have fallen into the error of asserting that a mental state of evidence can be even approximately an inductive ground of the necessity of an axiom. And, indeed, it is hard to see in what relation the empirical ground can stand to the theoretic ground. Surely the theoretic grounds are the only that strictly prove anything theoretically; other grounds are irrelevant.

We are, therefore, justified in denying that evidence

1. Principia Mathematica p. 62.

is either the whole or the part of a test of the necessity of any axiom. The fact of the matter is, that self evidence provides absolutely no ground of any kind, of the specific necessity of a given axiom. It has nothing whatever to do with the probability or necessity of a definite theorem. Such necessity depends entirely on definite theoretic grounds. The whole question of evidence is merely a phenomenological one: that is to say, the only way in which we can and do become aware of theoretic necessity at all is by an act of evident intuition. But it neither follows from this that every necessary proposition must be evident to any mind, nor that any fact that appears intuitively evident is on that account necessary. Evidence can give us no assurance of the specific necessity of a certain determinate truth. But evidence does indubitably establish the subsistence in general of such a thing as theoretic necessity, as truly as visual sensation establishes the existence of light as such, though it may be mistaken about the degree of brightness, or the particular colour of any given object. Evidence is the only subjective ground on which we believe in theoretic necessity as such, though it is unable to testify with certainty whether a given object is necessary or not. Evident insight, to put the same thing differently, is the sure sign of reasoning according to some category, but is no criterion as to what that category is, or whether the deduction according to it is theoretically sound. To ascertain what the category is we require an absolute test such as the one expounded in the present treatise; and in order to ascertain whether a particular conclusion is true, we must refer to the particular grounds. Husserl is mistaken in believing that self-evidence can perform what can be done by the theoretic test and the particular grounds alone, he is certainly right (as against a standpoint such as that of

Russell) in so far as self-evidence is the unique test of the subsistence of necessity as such.