1926

The continuum in James Ward's psychology

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http://hdl.handle.net/2144/5832

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THE CONTINUUM IN JAMES WARD'S PSYCHOLOGY

by

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(A. B., Pomona, 1921)

A Dissertation
submitted in partial fulfilment of the
requirements for the
degree of Doctor of Philosophy

GRADUATE SCHOOL
BOSTON UNIVERSITY

1936
PREFACE

In the writing of this dissertation I am indebted to Professor Edgar S. Brightman for his constant help and encouragement, and many 'counsels of perfection'. I shall always feel deeply grateful to him for these services.

To Professor A. N. Whitehead I owe certain suggestions about the history of the continuum conception.

J. S. M.

Cambridge, Massachusetts,
March 30, 1926.
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I

WORK OF OTHER INVESTIGATORS
CHAPTER I
PREVIOUS INVESTIGATIONS

The Peculiar Problems and Difficulties in the Criticism and Interpretation of Ward's Continuum

1. James Ward is a central figure of modern British psychology. At a time when William James was still unheard of, and when Bain and Spencer dominated British thought, Ward introduced a revolution into English psychology. Both by teaching and by discussions at the Moral Sciences Club Ward reconstructed British psychology in terms of Lotze, Herbart, Kant, and Leibniz. A group of articles in Mind aroused immediate interest. But the spread of Ward's conception was largely due to his article "Psychology" for the ninth edition of the Encyclopaedia Britannica. William James says of this article, "... it seems to me, on the whole, the deepest and subtlest collective view of the subject which has appeared in any language."¹ The change wrought by this article was very far reaching and thorough. Empirical psychology was united to a more complete and thoroughgoing method.²

¹Mind, O. S., 13(1887), 183.
²The British Journal of Psychology, 16(1925), 3.
Bain, a great representative of the older British Empirical School, welcomed Ward's article as a great contribution.¹ He did not realize, however, how revolutionary the new method was. Ward's psychology destroyed the dominant psychological atomism.

"... British psychology has for over a quarter of a century put off its mourning garb for associationism. Professor Ward gave mental atomism its quietus long ago ..."² Ward's method tended to extend the influence of empirical psychology. Its recognition of the necessity of a philosophical study of method and of epistemological problems brought to light the bearing of psychology upon philosophy itself. Without doubt the Personal Idealists derived their ultimate inspiration from the movement inaugurated by Ward. Bosanquet was for some time a disciple of Ward's psychological method; and Bradley shaped his own psychology by opposing Ward.

Despite Ward's great influence, there is very little critical material written about his system. Ward himself thinks that this is partly due to the fact that his exposition was not in book form, but appeared as a long article in an expensive and vast

¹Mind, O. S., 11(1886), 477.
²The British Journal of Psychology, 16(1925), 56.
work of general reference. This made it difficult for many students to obtain. Its influence, however, was felt by many who did not know the original article.\(^1\)

One of Ward's students, Professor G. F. Stout, became almost as famous as his teacher, and better known. Thus many of Ward's theories came to be known in the form presented by Professor Stout. This may be the reason that Ward's own peculiar doctrine of the continuum is not better known. Professor Stout does not espouse it and give it a popular exposition.

Moreover, the excessive condensation of the Encyclopaedia article made it difficult to understand and hindered its popularity. The method suggested is never explicitly developed. Suggestions of this method are made more explicit in certain articles for philosophical periodicals. Ward seemed to consider that these periodical expositions were sufficient. He apparently did not relish any overlapping of his published material. But even these articles are obscure, and much more difficult to obtain than the Encyclopaedia article.

The nature of the composition of the Psychological Principles was not such as to render the obscurity of the continuum doctrine more clear.\(^2\) All of the

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\(^1\)Psychological Principles, p. vii.

\(^2\)Ibid., pp. v-vii.
important passages which treat of the continuum, with the possible exception of chapter xvii, are chiefly transcriptions from the Encyclopaedia articles.¹ Chapter xvii treats of the problem of psychoplasm, a continuation rather than a study of the foundations of the continuum theory. Although the Psychological Principles throws light upon Ward's theory of concrete psychology, and upon his broader conception of psychology as a science, it does not contribute much in addition to the material furnished by the Encyclopaedia articles, as far as the continuum problem is concerned.

The problem of the continuum is largely a problem of Ward's method. It is the problem of making explicit his methodological presuppositions. These are rooted in his epistemology and general philosophy. Although he may not make more presuppositions of method than the average psychologist, his method is unique and hence, as a mere presupposition, obscure. Every suggestion which Ward has ever made about method must be scrutinized to determine its suggestiveness for his psychological method. Even Ward's philosophical writings are obscure because the postulates of method are implied rather than expressed. Ward was correct when he lamented the 'holes' rather than the fact that

¹The article appeared with modifications in the tenth and the eleventh editions of the Encyclopaedia.
the work was a 'patchwork'. The welding of old and new together was well done. He did not, however, fill in all the omissions in method which would be necessary for an absolutely complete treatise upon explanatory psychology.

The few authors who have written upon Ward's psychology have usually not treated the conception of the continuum with any fullness. These writers have not made an attempt to determine the method involved; but have criticized Ward's view upon the basis of an assumed method. Most of the material is a criticism rather than an interpretation of Ward's conception. The only three significant attempts to grasp the meaning of Ward's continuum are portions of criticisms of his entire psychological system. At the most these criticisms are very short and incomplete. A study of them, however, will show us the necessity of examining the problem more completely. We shall consider the accounts of Alexander Bain, Dawes Hicks, and Norman Kemp Smith.

Previous Investigations of Ward's Continuum

3. Alexander Bain wrote a review of Ward's article when it appeared in the Encyclopaedia Britannica.

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1Ibid., p. viii.
This review appeared in *Mind* as a running comment upon Ward's psychological theory.\(^1\) Bain seemed to have no adequate conception of the radical divergence of Ward's views from his own. His greatest error in the interpretation of Ward is his failure to appreciate that Ward's subject is a functional unity. Bain assumes that Ward's subject must be some sort of an object or presentation.\(^2\) This assumption obscures the whole import of the continuum conception. Bain assumes that the continuum is only a name for the unity of thought. "Now it is obvious that our language must provide for both the separateness and unity or continuity of the stream of thought. Yet my fear is that 'continuum' rather inclines us too much to the other extreme. Moreover, I am not aware of any erroneous tendencies due to the previous phraseology; at all events, I think it could be used without implying any dangerous amount of independence among the terms of mental succession."\(^3\) Bain is obviously unaware of Ward's attempt to destroy mental atomism by his doctrine of the continuum. He is likewise unaware that Ward's continuum is an explanation of

\(^1\) *Mind*, O. S., 11(1886), 457-477.
\(^2\) Ibid., 460.
\(^3\) Ibid., 461.
the origin of generically new sensations. That is the reason that the import of Ward's peculiar theory of local signs escapes him. He thinks that Ward's theory is the same as Lotze's.\(^1\) Hence he misses the connection between Ward's theory of extensity and discrimination. For Bain qualitatively different sensations are ultimate. His atomistic logic blinds him to all that continuity means for Ward.

Dawes Hicks wrote the review of Ward's *Psychological Principles for Mind.*\(^2\) The review is critical rather than interpretative. Hicks uses his own critical realism as the basis of criticism. He frankly attacks the continuum conception upon epistemological grounds. He considers that it is a tertium quid which Ward's realism does not warrant.\(^3\) The continuum as phenomenal seems inconsistent with Ward's functional theory of the subject and what Hicks takes to be a realistic theory of the object. An interpretation of this phenomenalism is not undertaken. Professor Hicks does not realize that Ward's natural realism does not mean realism in his sense at all. It is true that Ward does not use the term 'mental' in the

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\(^1\)Ibid., 466.

\(^2\)Mind, N. S., 30(1931), 1-34.

\(^3\)Ibid., 7-9.
Psychological Principles, but the term 'experience' instead. Professor Hicks clearly points out the change of terminology in one important passage. In this case the word mental is removed and nothing but a pronoun and the neutral term 'constituent' are used in its place.¹ Ward is attempting to free his theory from occasionalism; but he still adheres to a phenomenalism. Ward's theory may be untrue to fact, or inconsistent with itself. Professor Hicks's criticism of its defects does not, however, make clear Ward's own meaning.

This review is primarily concerned with epistemological problems. Professor Hicks's preoccupation with the problem of cognition causes him to fail to realize the reason for a plastic continuum. Ward is interested in a self that moves as well as one that knows. The ego operates upon a continuum as well as being aware of it.² This motor element Professor Hicks does not consider. Hence, however valid his criticism, it does not make explicit Ward's complete theory of the continuum. As a matter of fact, it misses the central position of Ward's theory; the anthropomorphistic nature of the

¹Ibid., 6,7.
interpretation of the continuum is omitted from consideration. For Ward knowledge is instrumental to productivity. Even epistemology must recognize the relation of knowledge to experimentation with reality. "Experience is the process of becoming expert by experiment ...", Ward says.¹ This element which is so central in Ward's theory is entirely omitted by Professor Hicks. The rationalistic interpretation of Ward omits the most important clue to the interpretation of the continuum. That is the reason that Professor Hicks never understands Ward's theory of the growth of self-consciousness. He assumes that Ward must think that there is always awareness of self at every level of consciousness.²

Professor Hicks's criticism is valuable as a possible reinterpretation of Ward's psychology in terms of critical realism. It is not, however, an interpretation and exposition of Ward's psychology in terms of Ward's own epistemology. The difficulties with Ward's theory are to be found frequently in the fact that his method is not made explicit. A fundamental interpretation of Ward's theory must make explicit his anthropomorphic method.

¹Ibid., p. 38.
²Mind, N. S., 46(1931), 5,6.
Norman Kemp Smith devotes the larger part of chapter vi of his Prolegomena to an Idealist Theory of Knowledge to a statement and discussion of Ward's presentational continuum. Professor Smith's statement of the doctrine is more detailed than the statements of Bain and Hicks. He attempts an exposition; they did not.

Professor Smith correctly points out that Ward's theory rests upon the assumption that space is not a primitive characteristic of the continuum.\(^1\) He is also correct when he asserts that Ward considers extensity a property of the presentational continuum as a whole.\(^2\) But Professor Smith does not understand the reason for Ward's phenomenalism. For Ward knowledge of reality is an interpretation of the continuum in terms of the self. Professor Smith misses the anthropomorphic basis of Ward's psychology and epistemology. We find no reference to the self in his exposition of Ward's meaning. That is the reason that he does not see the reason for Ward's use of the psychological individual, "an imaginary individual ... who has continuously advanced from the beginning of psychical life ..."\(^3\) Ward uses a type

\(^1\)Smith, Prolegomena to an Idealist Theory of Knowledge, p. 105.
\(^2\)Ibid., p. 104.
\(^3\)Psychological Principles, p. 75.
of explanation which depends upon the creative activity of the self. Since Professor Smith does not consider Ward's theory of the subject in relation to the continuum, he does not understand the nature of the continuum itself in explanatory psychology. Hence Ward's explanatory methods are unclear to him.¹

In the discussion of local signs Professor Smith assumes that mathematical space must be the ground for any discussion of locations.² He does not appreciate the problem of growth which is so cardinal in Ward's psychology. Professor Smith seems to treat the mind as if it were a mere cognitive instrument. This is to miss Ward's meaning. Hence Professor Smith's discussion is hardly an exposition of Ward's view of the continuum. It is rather an exposition in terms of Professor Smith's own theory, given to prove the validity of a certain view of space. The criticisms of Ward may have some validity; but an adequate interpretation of Ward is not given.

The Inadequacy of these Investigations

3. The investigation of the meaning of Ward's continuum was not conducted in the above cases in

¹Smith, op. cit., p. 97.
²Ibid., pp. 103,104.
the interest of a full exposition of its meaning. They are criticisms, and criticisms which do not take into consideration Ward's entire method. No attempt is made to determine Ward's exact use of the term 'continuum' in relation to the historical usages of that term. The reason for Ward's use of the term throws light upon the conception itself. It is striking that so strong a vitalist as Ward should use a mathematical term to designate an essential aspect of his psychology.

But more important than an historical investigation of the term continuum, is the interpretation of Ward's psychology in the light of his anthropomorphism. All of these investigations have failed to interpret the continuum in terms of Ward's theory of the activity of the subject upon the datum. This is the clue, I think, to both the continuum conception and the epistemology which is connected with it.

This anthropomorphism is also the clue to another lack in these investigations. Ward's critics have forgotten that he is attempting to conserve the best in Herbart's doctrine by transforming it. It is true that Professor Hicks has touched upon this point; but he has not clearly discerned what Ward wishes to conserve in Herbart's theory. An investigation of the theory of the presentation in relation to Herbart's
theory of the Vorstellung throws light upon Ward's own conception of the psychic object.

In order to interpret Ward's own theory of the continuum it will be necessary for us to trace the history of the term. We must also determine the outlines of his theory of knowledge and psychological method. With this background we shall determine the meaning of the continuum as a presentation to an experiencing self or subject. This will make clear the anthropomorphic aspect of cognition. It will also make clear the reasons which underlie Ward's postulates of method. We now turn to the history of the continuum conception.
II

AN INTRODUCTORY ORIENTATION
CHAPTER II
HISTORY OF THE CONTINUUM THEORY

Pythagorean and Eleatic Conceptions

1. The history of the continuum theory is almost entirely the history of a mathematical conception. In all of the great philosophies the problem of the continuous seems to have centered itself about mathematical discussions. Even in the case of Aristotle, the continuum is expressed in a mathematical manner; and we may ultimately find that Ward derived his first conception of it from some form of the mathematical theory. Hence a knowledge of the mathematical usages of the term may bring some clarity into our problem.

The first significant theory of the continuous arose among the Pythagoreans. They conceived the universe itself as composed of numbers.\(^1\) Geometry was made arithmetic by means of a simple theory of lines as composed of points. The point was a "unit having position".\(^2\) Such a theory of absolute units was dependent upon a numerical theory of proportions.

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\(^1\)Arist. Metaph. A. 5, 985 b 23.
The discovery of irrational numbers would then have proven fatal to such a scheme. That may be the reason that this discovery was kept a secret by the Pythagoreans.¹

But, apart from the discovery of irrational numbers, Zeno's arguments alone would have destroyed the Pythagorean theory of continuity. He showed that no infinitesimal reached by division of a line would ever reveal a unit without magnitude; and if it were reached as a point, or magnitude-less position, it would be zero magnitude. But no number of zero magnitudes added together would produce a finite unit of magnitude.² This reductio ad absurdum of the numerical theory of continuity was the negative proof of the theory of the continuous as the basis of number. It would seem that some modern mathematical logicians² go too far in making Zeno the precursor of Weierstrass's theory of the calculus without infinitesimals.⁴ More probably, Zeno was only interested in the necessary primacy of the continuous, and in what he thought to be the imaginative character

¹Heath, Greek Mathematics, vol. 1, pp. 154,155.
⁴Heath, op. cit., vol. 1, 274.
of all divisions of the continuous.

Platonic and Aristotelian Conceptions

2. Plato was abreast of the mathematical knowledge of his day. He inherited the number theory of the Pythagoreans, and the paradoxes of Zeno as well. He appears to have attempted a construction of these theories of mathematics into one system. Prof. A. E. Taylor thinks that we can infer a numerical theory of the continuous from the dialogues.\(^1\) Sir Thomas Heath, however, calls attention to the fact that the passages to which Prof. Taylor refers deal with a mystic use of numbers.\(^2\) Plato may have held that numbers were an explanation of the continuous; but this is not clear. He more probably never assimilated the diverse branches of mathematics into one science.

Aristotle's theory of the continuum is more lucid, even if not so satisfactory as Plato's. He held that it could not be made up of indivisible parts. The continuous is that in which the limit or boundary of any two consecutive parts is not two, but one; and these adjacent parts always remain together. The infinite or unlimited only exists potentially, and not

\(^1\)Taylor, op. cit., vol. iv, 93.
\(^2\)Heath, op. cit., vol. i, 305.
in actuality. "In no other sense does the infinite exist but only in the sense just mentioned, that is potentially and by way of diminution."\(^1\) Likewise, the continuous does not exist of ultimate, indivisible units, but is divisible \textit{ad infinitum}.\(^2\) Infinitesimals are arbitrary units, chosen for approximate demonstration, but they do not furnish us ultimates cut of which the continuous is constructed. This gives the criterion of the continuous: "it seems that every continuum may be divided in parts which may also be divided \textit{ad infinitum}."\(^3\) By means of this conception of the continuous, Aristotle attempted to avoid the paradoxes which Zeno revealed within the Pythagorean system. "He solved the paradox of passing through an infinite number of space-points in a finite time by means of the new paradox, that within a finite number of time-segments infinitely small lapse may be assumed. There is for him no real infinite in the stringent sense of a disconnected infinite where greater or less is not possible."\(^4\)

\(^{1}\)Heath, op. cit., vol. i, p. 343.
\(^{3}\)Phys. v. 3, 231 b 16 sq.
\(^{4}\)Cantor, Geschichte der Mathematik, vol. i, p. 191.
Leibnizian Conception

3. There was no essential variation from Aristotle's conception of continuity until Leibniz. Even Descartes' *Geometrie* accepted the Aristotelian position. Leibniz's attempts to solve the problem are interesting because of his stress upon the fundamental principle of continuity as the cardinal presupposition of all order.¹

An application of reason to the concept of motion brought the problem of the continuous into sharp focus. For Leibniz, knowledge is a deductive system derived from first principles. Sense-knowledge confusedly symbolizes reason, but the meaning of sense can only be made manifest through the "natural light" of the intellect. First principles can never be obtained by an analysis of sense perception, because such an analysis would be infinite; but the logical principles are given in the intellect, and may then be found embodied in perception.²

Leibniz's most complete exposition of the application of reason to the problem of the continuous is to be found in a dialogue, *Pacidius Philalethi*,³

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¹Math., vol. vi, p. 129.
²Foucher de Careil, B., pp. 182, 181; Phil., vii, p. 309; Monadology, sections 31-37.
³Couturat, Opuscules et Fragments inédits de Leibniz, pp. 594-637.
which deals with the problem of motion. The question is raised whether the moment at which a man dies should be considered as simultaneously the last moment of life and the first moment of death. If the same moment be both life and death, this would be in accordance with Aristotle's conception of the continuous, but it violates the law of contradiction. It would then seem that a change of state or of position in space in two adjacent points of time is a jump from position to position. In the case of a body moving in space, the translation from one place to another would be a line of motion which is an aggregate of indivisible points. But this is absurd, for "the number of points in the side of a square is infinite, and, since we can draw one and only one parallel from any point in the diagonal to a given side, and since this parallel cuts two of the sides of the square in determinate points, the diagonal will contain the same number of points as the side, and will therefore be equal to it."  

Hence the line cannot be an infinite aggregate of points, since the number of points would be the number of all numbers, which is absurd. Thus the unit taken, however small, must have length. The theory that motion is rest and

\[\text{Taylor, op. cit., vol. iv, p. 96.}\]
movement interspersed is not a solution, since movement, even alternated by periods of rest, is still movement. As the solution of the problem, Leibniz proposes a theory of infinitesimals, but infinitesimals that have magnitude. Motion is composed of increments, but each increment has magnitude, and may itself be divided ad infinitum. A line is composed of many lines, each having its own continuity. This is phenomenal continuity.

Leibniz thinks that the law of the continuous has universal application. He states it in very broad terms as the principle of the order of the universe: "Nature makes no leaps." The relation of the monads is supposed to be a fulfilment of this principle, since there is no gap between them when they are ranged in ascending order, or even when they are related in nature. The monads have no extensity and are absolutely discrete. The continuity between them, then, is that of a well-ordered series. This is the metaphysical continuity. Thus we find two conceptions of the application of the principle of continuity: (1) the continuum as a series, and (2) the continuum as an extensity which implies any number of

1Gerh., vol. ii, p. 77.
increments, each having magnitude. The principle of continuity seems to be Leibniz's cardinal law of order. However, his two applications of the principle leave a breach in his system, a gap between phenomenal and noumenal continuity. This breach itself is a violation of the principle of continuity. It is no wonder that Leibniz spoke of it as "labyrinthus de compositione continui". ¹

Kantian Conception

4. There are peculiar ambiguities in Kant's treatment of the notion of continuity. He was not very familiar with the mathematical writings of Leibniz, and received from his contemporaries a confused conception of the relation of geometry and the numerical theory. The tendency of the eighteenth century was to treat the two sciences as disjunct. Hence, when Kant attempted to give a philosophy of mathematics with some internal coherence of the different mathematical disciplines, the result was a vacillation from one point of view to another. The traditional logic did not help Kant in this respect, as it gave him a false conception of concepts and formal relations.

¹Gerh., vol. vi, p. 65.
In the Transcendental Aesthetic Kant seems quite consistently to hold the position formulated in the Inaugural Dissertation,¹ that space and time, as types of continua, are wholes whose parts are subsequent to the totality; and hence the continuity is not an aggregate. This was clearly the traditional doctrine.

But in the Schematism of the Pure Concepts of the Understanding, where Kant treats the problem of number in relation to intuition, there is a double position taken. The position taken in the Transcendental Aesthetic is replaced by one more consistent with the doctrine of synthetic judgments. Intuition is made synthetic, i.e. a synthesis of sensations. "As the pure intuition in all phenomena is either time or space, so is every phenomenon in its character of intuition an extensive quantity, inasmuch as it can only be cognized in our apprehension by successive synthesis (from part to part). All phenomena are, accordingly, intuited as an aggregate (collection) of previously given parts; which is not the case with every sort of quantities, but only with those which are represented and apprehended by us as extensive."²

²K. d. r. V., A 163, B 203.
Only a few pages later, Kant assumes that the continuous is the ground of the manifold, rather than an aggregate made by the synthesis of the manifold. "This property of quantities, according to which no part of them is the smallest possible (no part simple), is called their continuity. Space and time are quanta continua, because no part of them can be given without inclosing it within boundaries (points and moments); consequently, this given part is itself a space or a time."\(^1\) Kant seems to have been puzzled, as were the ancients, by the problem of the application of number to quantity. Probably he held to the primacy of the cardinal numbers in conception. If so, the disjunction which he made between sense and understanding would constrain him to make the ordinal system of numbers an aggregate of discrete concepts. Hence the schematicism vacillates when number is applied to intuition. There is first an attempt to reconstruct the doctrine of intuition, then a return to the Aristotelian view.

Modern Conception

5. In the latter part of the nineteenth century, a new school of mathematics appeared, which now exists

\(^1\)Ibid., A 169, B 210. (Meiklejohn's translation)
as a dominant school along with the older theories. A careful study of the logical nature of number was made. New developments were made in formal logic showing its relations to mathematics. A logical calculus helped in the elaboration of the technic of investigation. The "new mathematicians" devised a new theory of order which depended upon irrational numbers, the very numbers which had been a stumbling-block to the Greeks. This furnished a new theory of aggregates as well. With the new conception of irrational fractions, it was discovered that there was no break between numbers in an ordered series, although the series itself was in a real sense an aggregate. With this basic conception, it was possible to develop geometry in terms of number, rather than of an intuited space. In other words, geometry was made conceptual, and intuition merely an illustration. In this sense the new mathematics fulfils Leibniz's dream, but destroys the logical foundations of his theory of psychic monads with an inner life which is not a series.\(^1\)

Mathematical continuity is made absolutely conceptual, just as Leibniz desired it to be. It is a matter of abstract reason apart from all spatial perception. But the continuity of spatial perception is left unexplained, and thus continuity itself is violated.

\(^1\)Couturat, Les Principes des Mathematiques, ch. iv.
CHAPTER III
WARD'S THEORY OF KNOWLEDGE

The Theory of Knowledge and Psychology

1. Ward borrowed the principle of continuity from Leibniz. This he explicitly affirms.\(^1\) He does not use it, however, in a Leibnizian fashion. He differs in his conception of the knowing process, both in itself and as related to concrete human experience. For Leibniz the mind is primarily an organ of knowledge.\(^2\) Reason is an end in itself. By abstract principles of pure knowledge the knowing mind apprehends the eternally real.

For Ward the mind is primarily volitional. Volition is central for both the theory of mind and the theory of knowledge. This appears even in Ward's earlier writings. At first he tried to reconcile his volitional psychology with an epistemology that bore traces of Neo-Kantianism.\(^3\) He attempted to make epistemological problems completely independent of

\(^1\) Realm of Ends, p. 20.

\(^2\) Of course the monads are conative, but the conative element is never explicitly developed epistemologically. If developed, it would have destroyed Leibniz's rationalism.

\(^3\) Mind O. S. 8(1883), 167-68.
psychology. But by 1890\textsuperscript{1} he seems to have been committed thoroughly to the conception that theory is related to volition. Theory has its root in practical interest rather than mere curiosity, as Aristotle thought. "It is often alleged," he says, "as a grievous short-coming of Locke, that he is content to say our knowledge is sufficient for our practical needs. For my part, I venture to think that his fault lay not so much in the principle he here assumed, viz., that knowledge is subordinate to practice: it lay rather in his ignoring the fact that our knowledge is, after all, not sufficient for our practical needs."\textsuperscript{2}

However, this assumption that the original root of knowledge is practical does not mean that Ward repudiates theoretical knowledge or its validity. His reaction is against the assumption that the logical interest is purely autonomous. His contention is that it is derivative and, when considered in relation to concrete experience, subservient to practice. That does not mean that theory is true because it is useful; rather it is useful because it is true.\textsuperscript{3} The validity of theory is basic for science and scientific philosophy. Ward even contends that Fichte is wrong when he asserts: "Tell me of what sort a man

\begin{enumerate}
\item Mind O. S. 15(1890), 232.
\item Mind O. S. 15(1890), 232.
\item Psychological Principles, p. 416.
\end{enumerate}
is, and I will tell you what philosophy he will choose."¹ The practical interests do cause mankind to search for truth, and truth is useful; but useful because it is truth, and not truth because of its usefulness. There is a sense in which Ward agrees with Fichte, as we shall see later, but not in relation to scientific theory or scientific philosophy.

This conception of truth does not deny the anthropomorphic character of knowledge. To be sure, Ward does believe in existential or thetic propositions which assert mere matter of fact. But such absolute propositions only assert sense-data, appearances to the individual; and hence, although in one sense absolute,² they are absolute only for subjective knowledge and not for Bewusstsein überhaupt. But knowledge that deals with relations and not mere matters of fact involves fundamenta relationum.³ These fundamenta of the higher levels of knowledge are certain aspects of self-consciousness. The relations of cause and effect, substance and attribute, means and end, all have their fundamenta in certain analogies drawn from the nature of self-consciousness.³ Self-consciousness gives the key to the meaning of

¹Mind O. S. 15(1890), 239.
²Mind N. S. 28(1919), 258ff.
³Psychological Principles, p. 334.
the higher categories. Hence all knowledge is
anthromorphic in character: sense-knowledge, because
it is phenomenal or subjective; scientifi
c and
metaphysical knowledges, because they are grounded in
analogies based upon self-consciousness.

It seems to have taken Ward some time to realize
that this conception of knowledge would ultimately
change his theory of the relation of psychology and
epistemology. His earlier theory that psychology can
not throw light upon the epistemological questions of
the origin and limits of knowledge was clearly
inconsistent with his theory of the nature of thought.
This radical Kantianism seems to have been changed by
Stumpf's article, "Psychologie und Erkenntnistheorie".

Stumpf carefully examines Kant's theory of knowledge
and shows that it contains a great deal of psychology
and that not of the best sort. He then critically
tests the hypothesis that a thesis true in psychology
may be false in epistemology, and demonstrates the
hopeless impasse into which it leads. Thus it seems
necessary to recognize "that nothing can be true in

1Naturalism and Agnosticism, pp. 537 ff.
2Psychological Principles, p. 334.
3Mind, O. S., 8(1883), 167-68.
4Abhandl. der bayer. Akad., 1891.
epistemology that is false in psychology."¹ The facts about the origin and nature of knowledge, as psychology discovers them, are valid for epistemology. In this sense epistemology is dependent upon psychology. This position of Stumpf, Ward adopted.

Ward recognizes that "there is a vast deal of truth in epistemology that is beyond the province of psychology to question..."² "This can only mean that as regards the main question, quid juris, there is — or rather, should be — no appeal to psychology; and that for the simple reason that the preliminary question, quid facti is or should be already settled."³ Psychology as a science of fact is, of course, not a theory of validity; but validity is dependent upon psychological fact. That means that, in the end, epistemology is anthropomorphic since it is rooted in the soil of anthropomorphic fact and estimates anthropomorphic validity. It is the science of the validity of a certain expression of human purpose, which proves "to be not logomorphic — to coin a word — but anthropomorphic, not a logical form but a subjective 'analogy'."⁴ For Ward that epistemology

¹Psychologie und Erkenntnistheorie, Offprint, p. 18.
²Psychological Principles, p. 433 (foot-note 1.)
³A Study of Kant, p. 58.
⁴Ibid., p. 87.
which assumes the "logomorphic" conception of knowledge, is untrue to the psychology of knowledge, and hence is false.

But although anthropomorphic, all thought is not by necessity epistemologically subjective. It is anthropomorphic in the sense that it is either phenomenal or an elaboration by analogy from the meaning of the subject and the subject's reality; but it is over-individual in the sense that it acquaints him with meanings that transcend his life.

The Theory of Knowledge and Logic

3. Ward does not use the term logic, as do the absolute idealists, to denote the whole realm of knowledge. The term epistemology is used for that broad purpose.¹ Logic has for him a restricted meaning. It is used only in application to "thought-knowledge". Epistemology treats of the nature of both "thought-knowledge" and "sense-knowledge". This distinction, viz. between thought-knowledge and sense-knowledge, is significant for Ward's entire theory of psychology, and of the continuum in particular.

Quite obviously, this distinction is derived from

¹Mind 28(1919), 359; 450. (Logical contradiction is here contrasted with other more simple types of contradiction which epistemology recognizes.)
Kant. Ward considers that "the failure adequately to recognize this distinction was notoriously a defect of the English psychologists, especially of Hume and the so-called Associationists."¹ But there was truth in the English psychology: it did not make thought and sense completely disjunct. Kant maintained that sense was purely passive and understanding purely active. But there is at least the activity of attention in sense as well as understanding. "Nor can we well maintain that the presentations of sense and understanding differ altogether in kind; albeit such a view has been held from Plato downwards."²

In other words, there is no sharp line between the two. There is a continuity between them. This continuity does not reduce thinking to a special kind of perception as the Associationists thought. It only makes the differentia more problematic. Ward gives a broad characterization of intelligence "as solving a problem -- finding an ax that is b. ... Hence far the aptest and in fact the oldest description of such thought is that it is discursive."³

By sense-knowledge we are to understand "the simplest statements that express only what is sensibly

¹A Study of Kant, p. 30 (foot-note 3.)
²Psychological Principles, p. 293.
³Ibid., p. 295.
apprehended."¹ Of course, such knowledge may take the form of propositions, and propositions are a form of knowledge that belongs to a standpoint above that of mere sense-knowledge. But such propositions do express a knowledge that is mere "sensory awareness or 'simple apprehension', as such."² The 'simple apprehension' of mere matter of sense fact is sense-knowledge. Thought-knowledge is the explicit work of intellection. Although "it involves a certain elaboration of sensory and motor presentations and has no content apart from these",³ yet it is much more; it involves "free ideas" or concepts which are not present awareness but "a search for something more or less vaguely preconceived..., a clue which will be known when it is found by helping to satisfy certain conditions."⁴ This "clue" is "free" in so far as it is not dependent upon present perception and may be manipulated in order to solve problems without changing the sense order.

The relation of the concept to the real is a very vital question in Ward's epistemology where

¹Mind 28(1919), 358.
²Ibid., 357.
³Psychological Principles, p. 293.
⁴Ibid., p. 394.
sense-knowledge and thought-knowledge are thus differentiated. The language of much of *The Realm of Ends* and *Naturalism and Agnosticism* would lead the reader to suppose that Ward assumes that all concepts or "free ideas" are but abstract schemata of the concrete real. "What then," he asks, "is left out of this abstract or empty time? Paradoxical though it appear, what is left out, we shall find, are the mutually implicated facts of duration and change."¹

"The space of the geometers ... is indeed the work of the mind, has ideality and validity, but not reality; but also it is based upon concrete experiences ..."²

Ward's theory of the continuity of sense and understanding seems to justify the assumption that he regards all concepts as abstract.

It is true, to be sure, that although abstract, the concepts of space and time are not "merely perceptual time and space with only the filling left out. Perceptual time is not uniform and perceptual space has not three homogeneous dimensions; nor is either indefinitely extended or indefinitely divisible."³ Conceptual space and time are not mere abstractions: they are "creative", archetypal,

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¹ *The Realm of Ends*, p. 305.
² *Naturalism and Agnosticism*, p. 438.
³ *Psychological Principles*, p. 319.
constructive." "...We apply them to the real world, but they do not belong there. The existence or non-existence of that is no affair of theirs."¹ Despite the fact then that these concepts are not mere abstractions, they do not furnish us with the real. And this is true, not only of the concepts of space and time, but also of the notions of mathematics, and the laws of formal logic. Of course descriptive concepts are abstract because of their generic character. It seems, then, that the concept is for Ward an abstract schema.

However, such a conclusion would be hasty. There are concepts which Ward does consider as furnishing us with a knowledge of the concrete. It is unfortunate that the two types of concepts are never contrasted as such. The assumption is latent in all the discussions of the schemata, and is made explicit in the radical difference between phenomenal and noumenal knowledge.² The real concepts are interpretations of perception in terms of self-consciousness. In self-consciousness we have knowledge of ourselves as real; and by means of this concrete knowledge the ultimate real is analogically known.

²The Realm of Ends, pp. 300 ff.
There is no absolute discontinuity between these abstract concepts and the concepts of the real. Self-consciousness involves certain aspects of sense-perception. Sense-perception is thus the basis of the genetic continuity between these two different types of concepts. The very continuity between them, however, brings us back to the principle of continuity.

The Principle of Continuity

3. Although Ward constantly appeals to this principle of continuity which he borrowed from Leibniz, yet, strangely enough, he never explicitly explains its place in his theory of knowledge. Clues, however, are not lacking, and from these it may be possible to determine its significance.

Ward does not apply the principle in the thoroughgoing fashion of Leibniz. The limits of application are dependent upon experience. "In dealing with real things our approach to the limits can never be more than asymptotic: we can attain neither to the infinitesimal nor to the infinite. The principle of continuity then gives us no title to infer from the distinction reached by analysis to the separate existence of the factors analyzed. Only

1 The Realm of Ends, p. 30.
experience can justify such a separation."¹ Such limitation of application would not prevent it from being a formal law of thought since Ward so limits the laws of thought. However, he does not include it in his list of formal categories or mention it as a law of synthesis.²

Even if we did not have Ward's list of categories at hand, we should be forced to consider the principle of continuity in a different light from the categories. It is not a form of synthesis, but a presupposition of the categories which may be developed into a methodological principle. It is the factual prerequisite of all knowledge -- even sense-knowledge in so far as it is noetic -- and hence is an empirical presupposition as well as a methodological principle.

"That... absolute diversity -- or disparateness, as we may call it -- affords no ground for relations becomes evident when we consider (1) that, if we had only a plurality of presentations absolutely different, we should have in this sense no consciousness at all; and (2) that we never compare -- although we distinguish -- presentations which seem absolutely or totally disparate..."³ The nature of knowledge

¹ Psychological Principles, p. 443 (foot-note 3).
² Ibid., pp. 318-346.
³ Ibid., p. 330.
demands that there be no leap between the two relata. This is tantamount to asserting that we may only move from the more known to the less known by interpreting the less known in terms of the more known, "in Baconian fashion 'per scalam ascensoriam,' through axiomata media." ¹ Otherwise advance of empirical knowledge would be impossible. Thus the fact of knowledge and the advance of knowledge assume alike the principle of continuity as the cardinal methodological axiom. In reality it is a postulate of the rationality of experience: an axiom of the possibility of explanation. Hence it is rightly termed the principle of continuity.

CHAPTER IV
WARD'S PSYCHOLOGICAL METHOD

The Standpoint of Psychology as Individualistic

1. To understand Ward's application of the principle of continuity to the problems of psychology, it is necessary to appreciate his psychological method. The principle is applied to the general method as well as to the specific problems of psychology. Ward thinks that psychology is not an abstract science in the sense that it deals only with a part of experience. Nor is it abstract in the sense that it disregards significant aspects of concrete experience. Hence it is not schematic, archetypal, or regulative, in the sense that geometry and logic are. It is an empirical science which deals with experience as fact.¹

Since psychology, in some sense, deals with experience as a whole, it can hardly "be defined by reference to a special subject-matter as such concrete sciences, for example, as mineralogy and botany can be..."¹ If it is to be characterized at all, it must be defined by its standpoint. Ward suggests that its

¹Psychological Principles, p. 36.
standpoint is 'individualistic', but carefully guards his statement to prevent misunderstanding. Psychology is not mere biography, particularly biography that is purely subjective and in essence incommunicable. It is purely universalistic in the sense that its judgments belong to Bewusstsein überhaupt and are not epistemologically subjective. They are judgments true for all. But psychology is individualistic in the sense that it deals with experience as "someone's experience", be that someone man or mere amoeba. Psychology never abstracts from the fact -- as Ward deems it -- that experience is possessed by someone experiencing.¹ The so-called objective or natural sciences, according to him, abstract from this element of experience. Since these sciences are interested in certain aspects of experience alone, they treat these aspects as if they existed by themselves, and do not consider the fact that they are always objects of someone's experience.²

Ward's is the same standpoint as that from which Locke and Berkeley approached psychology. "Of all the facts with which he deals, the psychologist may truly say that their esse is percipi, in so far as

¹Ibid., p. 35.
such facts are facts of presentation, are ideas in Locke's sense, or objects which imply a subject.\(^1\)

However, Ward does not accept Locke and Berkeley's theory of the nature of the perceived objects, either in relation to each other or in relation to the world of reality. In fact he repudiates the associationists' theory of the relation of psychic objects, and the Cartesian theory of subjective modifications.\(^2\)

In his article, *Psychology*, contained in the ninth edition of the *Encyclopaedia Britannica*, Ward did espouse the theory of subjective modifications.\(^3\) It was a heritage from the Cartesian dualism which shaped Locke and Berkeley. However, Reid's careful criticism of Descartes' theory of ideas seems to have changed Ward's conception. "What Reid meant to say was: -- In perception we are not conscious of ideas in us, but we affirm objects present to us."\(^4\) Ward thinks that the theory of subjective modifications arose from the crude psychophysical standpoint that characterizes the thinking of common-sense, and of the older psychology. "Into the man's head the whole world goes, including

\(^1\)Ibid., p. 27.
\(^2\)Naturalism and Agnosticism, pp. 405, 406; Psychological Principles, p. 27.
\(^3\)Encyclopaedia Britannica, 9th ed., vol. xx, p. 38 b.
\(^4\)Psychological Principles, p. 18.
the head itself. Such thoroughgoing 'introjection' affords no ground for subsequent 'projection.'\(^1\) Subjective modification is only meaningful as a metaphor drawn from the psychophysical standpoint. But if the psychological, rather than the psychophysical, standpoint is most basic, then there is no warrant for the theory of subjective modifications. Clearly, 'subjective modification' should mean that the experient who has the experience is modified. But perceptions are not modifications of the experient, but of the experient's perceptions. These perceptions are for individual experience some aspect of the real world. This is demanded by the primacy of the psychological standpoint over the psychophysical, and also by the necessity of avoiding the epistemological dilemmas produced by subjective idealism. If the psychophysical position were the fundamental one, then the theory of subjective modifications would be the only possible one. "But what in that event would become of epistemology is not easy to say."\(^2\) Experience, then, is not caused. It is that with which psychology must deal as ultimate. But although it cannot be considered as caused

\(^1\)Ibid., p. 103.
\(^2\)Ibid., p. 104.
by something outside of it, yet experience needs explanation if we are to understand its meaning.

Psychological Explanation

3. Ward lays great stress upon the method of psychological explanation. Its central importance he repeatedly affirms.\(^1\) As we have just seen, he rejects a causal explanation of experience from outside itself. Cause lies within experience. That means that experience must be apprehended from within if its complete meaning is to be apprehended. Experience is concrete only for the experiencing individual himself. We know only our own experience, and must infer that of sub-human beings. We have already seen that Ward holds that the principle of continuity, the basic principle of methodology, demands that we proceed from the more known to the less known, explaining the latter by means of its relations to the former. Thus human experience becomes the basis for comparative and genetic psychology. By means of human psychology animal psychology may be understood. "Lower forms of experience, notwithstanding their greater simplicity, we know later and know less."\(^2\) It would

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\(^1\)Ibid., pp. \text{24}-26.  
\(^2\)Ibid., p. \text{25}.  


be a violation of the principle of continuity to begin with a mere biology of the protozoa and advance to the level of man, passing gradually from biology proper to psychology proper. This is indeed an attempt to apply the principle of continuity, but one which does not realize the direction in which explanation must move. "If it be a sound maxim to proceed from the known to the unknown, then Analytic Psychology, starting from human experience should precede any attempt to treat the genesis of experience as a whole, or to correlate psychology with physiology."¹

Ward emphasizes an Analytic Psychology of human experience as the first desideratum of psychic explanation. In this he follows Herbart.² We have seen why Ward contends that psychology should begin with human experience; but we have not seen why it should be analytic. The problem will be made clearer if we notice one fact, which Ward mentions but never sufficiently stresses: the difference between psychological and psychical analysis. "By psychological analysis we mean such analysis as the psychological observer can reflectively make, by psychical analysis only such analysis as is possible in the

¹Ibid., p. 36.
²Ibid., p. 309.
The immediate experience of the subject observed. "1 The analysis of Analytic Psychology is psychological analysis. It is an attempt to find all the significant aspects of the mental life. These facts may not be clear to the experiencing individual, but careful scrutiny brings them to light as aspects of his experience. There are "facts in plenty within the whole range of human experience" whose importance is never revealed in any other way. 2 But Ward considers that analysis should do even more than furnish significant aspects of the mental life which may be used analogically to understand the problems of comparative psychology. He considers that analysis can reveal the hypothetical factors involved in any possible experience. This is accomplished by the examination of human consciousness, and the determination of its most essential characteristics. This furnishes us with the most simple type of organization, the limit which genetic explanation assumes as the most primitive form of experience. It is the ideal limit, the most simple consciousness. 3

But such psychological analysis does not reveal

1 Ibid., p. 105 (foot-note 3).
2 Ibid., p. 36.
3 Ibid., p. 40.
absolutely separate factors of organization. "The principle of continuity... gives us no title to infer from the distinction reached by analysis to the separate existence of the factors analyzed." It only reveals characteristics of experience, which may be isolated for examination, but are never separated in actual experience. Analysis is the preliminary of explanation.

For Ward, explanation in psychology seems usually to mean genetic explanation. Genetic explanation apparently is an application of the principle of continuity. This is the type of explanation that is exemplified in the organization of the Psychological Principles. There is first a very short analytic psychology which furnishes the necessary characteristics of experience. Then there is a study of the genesis of experience, using the limit furnished by the prior analysis. Explanation reveals the unknown in terms of the known; aspects of human experience furnish the key for the discovery of the necessary characteristics of any experience whatsoever. The assumption that the unknown must be analogous to the known means that there must be no absolute break

1Ibid., p. 442.
2Ibid., ch. ii, pp. 29-59.
between our present experience and our past experience, and between our experience and the experience of subhuman beings.

But Ward does not consider genetic explanation merely as a descriptive enterprise. For example, the application of the category of cause in psychology is not merely formal. The application of this category is formal in the so-called natural sciences because they abstract from the concrete significance of such a category. They abstract from the anthropomorphic character of cause. Causation in psychology is quite different. In psychology, the anthropomorphic character of the category is recognized, and the active experiënt becomes the basis for the genesis of experience.\(^1\) It is the nature of the experiënt as well as the nature of experience itself that furnishes the basis for genetic explanation in Ward's psychology. Too much stress can hardly be laid upon this point. Of course the experience itself has characteristics, but the genesis is due to the experiënt's activity. "So -- as 'it goes cycling on' -- the range of experience continuously extends, its *'contents' becoming at once more diversified, more harmonized, more unified... The explanation lies (l)

\(^1\)Ibid., pp. 340-345.
in the steady subjective orientation towards the good, tentative, and erring indeed but none the less persistent; and (2) in the plasticity of the objective continuum. There is, then, a single agent on the one side and a continuous 'field' before it on the other: the one we may call the primum movens, the other the material condition, of psychogeny.¹ The ground of the meaning of the forms of explanation is the concrete ground of genesis. The material conditions lie in the experience, but the development is due to the subject of experience. Now it becomes apparent why Ward is confident that analysis can reveal the ultimate factors of experience. He thinks that the ground of explanation is the experient, which is the basis for the meaning of all the forms of explanation, that is, gives meaning to the categories. Hence the principle of continuity demands that all experience whatsoever involve an experient. Otherwise it would not be other than an abstraction.² And that is just what Ward considers presentationalism to be: an attempt to explain the whole in terms of one part.³ Thus it proves that genetic explanation has a special meaning

¹Ibid., p. 411.
²Ibid., p. 309.
³Ibid., pp. 23, 24.
The Psychological Individual

3. Such thoroughgoing psychological explanation involves, as we have seen, the assumption that all the complexity of the mental life has been acquired by the activity of an experient. This follows from Ward's application of the principle of continuity. "But we seem bound as a matter of method to suppose all discernible complexity and differentiation among presentations to have been originated, i. e. experimentally acquired at some time or other."¹ But this assumption involves genetic psychology in peculiar difficulties which make the immediate application of the assumption somewhat complex. In the life of the actual individual "all discernible complexity and differentiation" cannot be considered as originated by the experient himself. The facts of heredity must be faced. Of course it may be assumed "that there has been a succession of sentient individuals beginning at the lowest level of life and advancing

¹Ibid., p. 75.
continuously to the level of man. Ward does this; he assumes that what the ancestor acquired by effort is instinct in the progeny.

Such a psychological Lamarckianism is very complex. The process of reproducing ancestral experience in the life of the progeny is unusually complicated and problematic. Ward considers that the development of experience from its dawn to its highest forms can best be shown by assuming that an imaginary individual has developed continuously from the beginning of psychical life to the level of human experience. Such an individual is a methodological fiction. Its advantage seems very great to Ward. It allows a simple presentation of his postulate of psychic continuity. Of course such a fiction leaves to the psychology of the concrete individual a very delicate problem: what is the validity of the psychological individual, i.e., this fiction which Ward uses, for concrete psychology? We shall discover later that Ward separates the objects of experience from the subject of experience. The continuity which the doctrine of the psychological individual is intended to make explicit is that of the objects of experience,

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1Ibid., p. 74.

2Realm of Ends, pp. 308, 309.
and in no way refers to a continuity of subjects in the genealogical series. The fictional individual takes the place of the series of distinct subjects. In this way the steps of heredity and the transfer of experience from individual to individual are obliterated, thus making an explanation of continuity very simple.

The crux of Ward's theory of continuity is revealed in his stress upon the doctrine of the psychological individual. Since there is no continuity of subjects, the whole continuity lies upon the object side. This ultimately leads Ward to the theory of a plasm which the individual inherits as his set of objects. This plasm was elaborated by the subject's ancestral\(^1\) and is called psychoplasms. The fiction of the psychological individual helps to make explicit the continuity which psychoplasms ultimately explains. However, it incidentally presents a kind of continuity which is foreign to Ward's system: the continuity of subjects of experience.

This leads us directly to the problem of the subject-object relation, and a study of the continuity of objects.

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\(^1\)Cf. below, ch. ix, sec. 2.
III

THE SUBJECT-OBJECT PROBLEM
CHAPTER V
THE SUBJECT-OBJECT RELATION

Fundamental Analysis: The Subject-Object Relation

1. It is now clear that Ward's psychological method is an embodiment of the principle of continuity. The meaning of continuity, in specific application to the problems of general psychology, only becomes clear by following out Ward's own method of procedure. As has already been shown, this method is (1) the most general analysis of human experience, (2) genetic explanation in terms of this fundamental analysis.

For Ward, the most fundamental analysis of experience yields the duality of subject and object.¹ Of course this is not what has been defined above as psychic analysis. Frequently the distinction of subject and object is not even recognized in consciousness.² There is often no awareness of its existence. It is only psychological analysis which reveals the fundamental characteristics of experience. Hence it is not an immediate datum of awareness; it is

¹Psychological Principles, p. 309; Naturalism and Agnosticism, p. 417.
²Psychological Principles, p. 361.
rather what Kant calls a judgment of experience, "a judgment made at the conceptual level." It is an inference because it is an interpretation of the given in terms of the not-given. This analysis, which yields the duality of subject and object of experience, is the most fundamental analysis because it reveals the two factors without which experience at any level cannot be understood. Ward does contend, as we have seen, that experience must not be transcended in empirical psychology. But he likewise contends that experience is more than the object of awareness. Experience involves the object of awareness and the awareness itself. We are not aware of the activity as datum; but there is, in the first instance, awareness of the object to which awareness is directed. For Ward, the nature of self-consciousness verifies this conception. Self-consciousness does not seem necessary to experience. Also the growth of self-consciousness is a slow elaboration. It is only after long experimentation with various ideas that there is elaborated a clear conception of the self in relation to the object.

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1A Study of Kant, p. 73.
2Psychological Principles, pp. 378, 379.
3Ibid., pp. 371-383.
duality of experience is always conceptual, i. e. an interpretation of perception and ideation.

In one of his earlier articles upon psychology, Ward asserts, "We can often form a distinct conception of the relation between two terms when we have no such distinct conception of the terms themselves. So here: without waiting to examine ontological theories we can ask how subject and object are related."¹ This assertion would seem to indicate that the relation was the concern of empirical psychology and that the factors were not its concern. Yet in the very series of articles in which this assertion occurs, Ward uses the method which he later employs in the Psychological Principles. He discusses factors of the mental life: (1) the objects of experience, and (2) the subject of experience. To understand this seeming paradox we must realize that Ward considers the subject-object relation as asymmetrical. The relation of subject to object is not the same as the relation of object to subject.² That means that both subject and object are relational meanings. Since this is so, we can study object through its relation to subject. This is the psychological relation of presentation. This may be done without making a study of the nature

¹Mind O. S. 13(1887), 54.
²Mind N. S. 2(1893), 83.
of the object as independent from the subject. We study the object in relation to a subject as one factor of experience. In psychology we do not study objects per se, but objects as presentations. The subject or self is studied in psychology, not as a metaphysical entity, but as related to the presented by attending to it. Thus presentation is the relation of object to subject; and attention is the relation of subject to object.1

As shown by a table given in the Psychological Principles, the factors of experience are considered only in so far as related.2 Although the terms subject and object are used, they do not indicate factors as they are in themselves; but factors qua related. This is why the terms subject and object are used: they are correlative and make explicit the relational meaning which they are intended to convey. "Now wherever the word Subject and its derivatives occur in psychology we might substitute the word Ego and analogous derivatives, did such exist. But Subject is almost always the preferable term; its personal form is an advantage, and it readily recalls its modern correlative Object."3 The meaning of the factors of

1 Psychological Principles, p. 39.
2 Ibid., p. 56.
3 Ibid., p. 35.
experience is now clearer. They are relational, and because relational they always imply the whole of experience to which they belong. They are never entities, but parts of the organism of experience.

Aspects of the Subject-Object Relation

2. Ward is convinced that the relation of presentation is relatively independent of its correlative relation. For this reason the theory is plausible that experience is only composed of ideas or presentations associated together. "Whatever our sentimental preferences may be, it is hard to see any scientific objection to such an attempt if only it could succeed. The one question to be asked then is: Can it?"\(^1\) It was Herbart who convinced Ward of the large independence of presentations. Herbart showed the laws of association, assimilation, and reproduction as laws that apply to ideas. The explanatory success of this attempt convinced Ward that the presentational relation accounted for nine-tenths of each fact of the mental life.\(^2\) Herbart's explanation was solely in terms of the relations of ideas to each other. The validity of Herbartianism lies in the fact that the

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\(^1\) Ibid., p. 71.
\(^2\) Ibid., p. 411.
relation of presentations to each other explains so much of experience. The relation of "objects" to each other is then one of prime importance for psychological explanation. Because of its relative autonomy it may be made a separate inquiry in psychology. Ward does not agree with the extremes to which Herbart would have carried his "statics and dynamics of presentations", "but his attempt may at least serve to exhibit more impressively the large amount of independence there is between the subject of consciousness and its objects." Ward's own treatment of psychology develops largely along the lines of explanation in terms of the relations of psychic "objects" to each other, because he believes these relations explain the larger part of each fact of experience.

But Herbart's services were more than the contribution of a theory of Vorstellungen or ideas. Along with the associationists, he did more than he realized. "The more he has succeeded in making the structure of the nine-tenths clear the more he has unintentionally brought to light the fact that this presentational structure implies a subjective function." 

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1Ibid., p. 46.
2Ibid., p. 56.
3Ibid., p. 411.
Ward considers that the ideas of Hume and the British Associationalists, and the Vorstellungen of Herbart imply the presentational reference. The validity of their explanation is only possible because they implicitly assume that the idea is a presented object. "But, however much assailed or disowned, the concept of a 'self' or conscious subject is to be found implicitly or explicitly in all psychological writers whatever -- not more in Berkeley, who accepts it as a fact, than in Hume, who treats it as a fiction. This being so, we are far more likely to reach the truth eventually if we openly acknowledge this inexpugnable assumption, if such it prove, instead of resorting to all sorts of devious periphrases to hide it."¹ Ward's entire psychology is shaped by the conviction that psychic objects are always considered, implicitly at least, as presentations, that is, as related to an experient. It is only because of this relational aspect that they are considered psychic objects at all. So when Herbart makes clear the possibility of a science of psychic objects with great explanatory power, his very thoroughness makes explicit the fact that the Vorstellungen are presentations. The object is always assumed to be given. But if

¹Ibid., p. 35.
given, given to whom?\textsuperscript{1} Herbart's psychology of the relation of ideas makes explicit for Ward the relation of presentation as primal in experience. In fact, Herbart's theory, corrected by the interpretation of ideas as presentations to an attending subject who selectively modifies ideas, is the basis of Ward's general psychology. This relational theory of the subject and object, although so fundamental to Ward's whole psychology, is never made sufficiently explicit or elaborated in any of Ward's treatises. It is alluded to and implied, but not made clear. This makes an understanding of his psychological writings difficult. In the \textit{Psychological Principles} the relational conception is assumed as an obvious psychological necessity. To be sure the necessity of the psychological subject is stressed. Also the psychological subject is stressed as implied by Herbartianism and Associationalism, and demanded as their corrective. But Ward does not make explicit the notion of presentation as relational. According to Ward, Herbart's \textit{Vorstellungen} are implicitly relational, that is, they are always considered as presentations. Yet Herbart denies the relation of presentation to a subject. For that reason Ward

\textsuperscript{1}Congress of Arts and Sciences, vol. v, pp. 639,640.
considers Herbert inconsistent.\(^1\)  

Because Herbert implicitly assumed the Vorstellungen as relational, yet failed to recognize the psychological subject, he endowed them with aspects properly belonging to attention. Ward considers that Herbert denies the necessity of the conception of the psychological subject for empirical psychology because Herbert considers that if there were a subject for psychology, it must be discoverable by introspection or perception. In itself it must be a psychic object.\(^2\) But as has been shown, Ward considers that the subject by its very nature cannot be a presentation because it is the relation of attention to the object, and ipso facto cannot be its correlative, a presentation. In self-consciousness attention is known, but is not itself presented. The criticism of Herbartianism is that it failed to realize the implications of its own position. It never asks what the Vorstellungen or ideas imply that makes them possible. Of course this is psychological and not psychic analysis, but Ward is convinced, as has been shown, that psychology deals with more than psychic analysis. His position at this point is quite different from Professor Calkins's. She makes explicit

\(^1\) Psychological Principles, p. 35.  
\(^2\) Congress of Arts and Sciences, vol. v, pp. 638, 639.
reference to the self an aspect of all consciousness whatever. The self is an object of awareness as certainly as perceptual objects are. Professor Calkins's answer to the Herbartians would be that introspection reveals the self, to which all experience is referred. "In other words, psychology as science of selves can be studied only by one who believes, or assumes, that he is directly conscious of himself." In other words, she affirms the "coextension of self-consciousness with consciousness"; Ward denies it. He agrees with Herbart: self-consciousness is a growth, and the "pure" self is never an object of awareness. But he disagrees with Herbart in the affirmation that the self is not needed in empirical psychology. For Ward, Vorstellung or psychic objects are only psychic because they are presentations to a subject.

Because Herbart did not realize the relational meaning of the Vorstellung, he attempted to explain apperception and the growth of self-consciousness by means of the inherent force of the ideas. By means of mutual attraction and repulsion they arrange themselves in more and more complex forms. Ward thinks that

1Calkins, A First Book in Psychology, p. 378.
this attempt reveals most clearly the failure of Herbart's theory of experience. The mutual attraction cannot explain the creative synthesis which growing consciousness involves. Mere summation cannot account for the selective unions to be found in mental development. "All real synthesis entails new properties which its component factors in their previous isolation did not possess."¹ Herbart's theory is based upon a mechanical methodology. It assumes that the growth of mind is quantitative and mechanical. It has no way of accounting for the qualitatively new that results from selective synthesis. Ward agrees that Herbart is right in contending that the ground of such creative synthesis is not presented. But because Herbart's method is mechanical, he fails to realize that change in structure is determined by function. Presentations are modified by function. It is function that is creative.² With Herbart's conception of the presentation, function cannot be a presentation. Ward follows Herbart's lead and agrees that function is not presentation. Function is however the correlative of presentation; it is the relation of attention and is the ground of the

¹The Realm of Ends, p. 103.
²Ibid., p. 107.
generically new in experience. Function makes possible creative synthesis.

Ward's general theory of function seems then to be (1) that experience involves more than the given, (2) that knowledge is not coextensive with experience but is the relation of presentation within experience, to which attention is a correlative relation, and (3) the correlative relation to presentation is function. Presentation determines and sets the bounds to function; but function organizes and changes the given presentation. "Presentations do not associate themselves in virtue of some inherent adhesiveness or attraction... They must be attended together: it is only what subjective interest has integrated that is afterwards automatically redintegrated. Were association a purely passive process so far as the experient is concerned, it would be difficult to account for the diversities which exist in the organized experiences of creatures with the same general environment; but subjective selection explains this at once."¹

The Psychological Subject or Experient

3. The self in Ward's psychology is the subject of experience. It is the functional activity of

¹Congress of Arts and Sciences, vol. v, p. 649.
the mind. Objects are presented to it and it attends to objects. The relation of an object to the subject is presentation; the relation of the subject to the object is attention. That does not mean that the subject is passive in presentation. Quite on the contrary, it may be quite active, and is never altogether passive. The relation of the subject to the object when the object is presented to the subject is attention. That is tantamount to asserting what was explained above: the relation of subject and object is asymmetrical. That is just the reason the subject is never its own object.

The relation of subject and object is not primarily causal. The subject is immanent cause, but does not produce the object; and the object does not produce the subject. To understand the psychological subject another category than cause must be used. Early in his writing Ward compared the relation of subject to object as the relation of energy to matter.\(^1\) It is not an altogether happy form of explanation, but was used to make some impression upon the predominantly mechanical thought of the latter part of the nineteenth century. It is an illustration which only partially illustrates. Ward himself says, "I do not mean by

\(^1\)Mind, N. S., 2(1893), 80.
this to imply any useful analogy between psychical life and a more or less automatic machine at work: but simply to illustrate by another instance the difference of category between presentations on the one hand, and conscious life, and feeling on the other.¹ Maxwell says that energy and matter are not the same. Energy is the agent; matter is that which is acted upon by energy. The energy is immanent in the effect produced upon matter. It does not produce matter, but mere modifications in matter. It is never revealed in itself, but only in its effects. So far the analogy is good, and so far Ward desired it to be carried. But the psychological subject is selective in its activity. Here the analogy breaks down. Also the subject is not related to a passive object. The object is given to the subject and hence has intensity. The relation of presentation involves an object with intensity — it is given to the subject — and an attending subject. Both presentation and attention have intensity. Neither the subject nor the object is passive in presentation.

Ward's description of the subject as functional activity is much superior to the energetic description. For psychology the subject is exclusively functional. Ward avows this conception when he denotes the self as

¹Mind, N. S., 3(1893), 80.
"the exclusively functional being of the experient subject, on which we have been led to insist."¹ The functional conception of the subject is in full accord with the relational conception of subject and object. Psychology deals with the self in so far as it attends. The self is only valid for empirical psychology in so far as it is actively relating itself to the object. Function is more than real energy; it is selective and creative. It is the ground of the modification of structure. If the Herbartian Vorstellung gives us a rough sketch of the presentation, -- and Ward thinks that it does, -- then the notion of function in biology gives us the corrective of a purely structural conception of any living process. Function is only possible in so far as it modifies a structure. This is vital in Ward's thought although he merely alludes to the conception.² The notion of function is a relational one. Function is the relation of an agent to a given structure. The structure is in some sense furnished to the agent; it is the datum for it. This is the dative relation.³ But even in the reception of the datum the agent is active. The dative relation is not a commutable one. "... A state

¹Psychological Principles, p. 456.
²Mind, N. S., 3(1893), 80.
³Congress of Arts and Sciences, vol. v, pp. 639, 840.
or an impression is not a function, though to receive an impression or to change a state may be...”1 And the notion of function involves both the relation of reception and the change of structure. Function is a relational notion of active receptivity and creativity.

Now it is clear that the subject is functional and the object not. So it is the subject that is conscious, and not the object.2 Ward does not care for the term consciousness because of its primarily cognitive meaning.3 It implies that knowledge and the mental life are coextensive; whereas he considers, as already shown, that knowledge lies within consciousness but is not coextensive with it. So he prefers the term attention to cover the meaning of the functional aspect of the mind. It has two advantages: (1) it stresses activity and its object, i.e. the duality of experience, and (2) it gives no suggestion of the associationalists' theory of a cluster of faculties.4 This second advantage is an important one.

To understand Ward's doctrine of attention it is necessary to realize its relation to the concept of feeling. By feeling is meant pleasure-pain, not a

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1Mind, 0. S., 13(1887), 49.
2Psychological Principles, p. 104.
3Ibid., pp. 21, 22.
4Ibid., pp. 60, 61.
touch, an organic sensation, an emotion, or a conviction. This theory of pleasure-pain is obscure and helps complicate the theory of attention. The Psychological Principles in several places contains expressions of this type: "... Feeling and attention exclusively belong to, and altogether make up the subject-side." This seems to imply that there are at least two faculties: feeling and attention. He tells us, to be sure, that "... presentation affects the subject; herein lies its one primitive capacity— that of feeling. Feeling again implies but one primitive faculty— that of being conscious or attending." This explanation is not very illuminating. It seems to imply that feeling is not functional, and hence makes an exception to his purely functional theory of the subject. But it does make possible a distinction which is vital to the notion of attention and the entire psychology: the difference between (a) the sensory or receptive attitude, when attention is non-voluntarily determined, i.e., where feeling follows the act of attention; and (b) the motor or active attitude, where feeling precedes the act of

1Ibid., p. 41.
2Ibid., p. 263; also p. 57, and p. 66.
3Ibid., p. 66.
attention, which is thus determined voluntarily.\textsuperscript{1} Feeling is absolutely essential to the understanding of the activity of attention. It would then seem that "Action-under-Feeling", a descriptive term which Ward himself uses in one passage,\textsuperscript{2} would be a better usage than "attention". However, such a usage would obscure the involuntary awareness which itself determines feeling. This brings again to the fore the problem involved in Ward's use of the term attention.

"Apart from feeling as the direct spring of action, the question, then, is simply whether action in process is anything more than attention to a special class of objects."\textsuperscript{3} Leaving to one side the problem of the "one primitive capacity -- that of feeling" and its relation to the functional conception of the subject, we have to the fore the problem implied in Ward's use of the term attention. The difference between the receptive and reactive factors in consciousness, apart from (1) feeling as the motive to action, and (2) feeling as determined by sensory awareness, is a difference of presentations. The activity is the same; but receptive activity deals with sensory objects, volitional activity with motor objects. One of the

\textsuperscript{1}Ibid., p. 57.
\textsuperscript{2}Ibid., p. 70.
\textsuperscript{3}Ibid., p. 67.
final proofs which Ward cites in defense of his position is Wundt's 'simple reaction-time' experiments.\footnote{Ibid., p. 68.} In these experiments the reaction-time was nil, which seems to indicate that the perceiving and acting were one. Ward acknowledges that in human activity the receptive and reactive are usually distinct. They are not however in the simple reaction experiments. This makes clear the result of our initial analysis: the subject of the subject-object relation is selective activity directed to objects presented to the subject. Attention is the correlative of presentation. It is not a psychosis following after presentation, but is the subject's relation to the object. Presentation is the object considered subject-ward; attention is the subject considered object-ward.

But the problem of the nature of feeling as the one "primitive capacity" still remains. Attention, as we have seen, is the only activity of the subject upon the object. The term "faculty" here obviously is used in a very special sense. It means the activity of the subject upon the object. Even receptive attention, since it is selective, is the activity of the subject upon the object. But we cannot understand the meaning of the activity of the subject unless we understand the way in which objects
influence attention. Objects not only narrow the range of attention; but they control attention by means of the affect which the activity of attention itself entails.\(^1\) Feeling is neither receptive nor reactive attention; but it results from receptive attention and causes reactive attention. It is a capacity of the subject in relation to the control of attention. It is the capacity of motivation. Thus it may well be called a "capacity". In the larger sense, however, it may be considered as an aspect of attention. If it be remembered that attention is functional, this conception becomes clear. Ward furnishes a clue. "Psycho-physics seems to warrant us in saying that differentiation of presentations is the psychical parallel of differentiation of nervous structure, whereas psychical activity or life seems to be the concomitant of the more of less intense working or functioning of this structure, and pure feeling a function, so to say, of this function."\(^2\) Feeling is neither pure passivity nor pure activity. Like the activity of attention to objects, it is both active and passive. It is passive in so far as it depends upon attention to arouse it. It is active in so far

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\(^{1}\text{Ibid., pp. 43,44.}\)

\(^{2}\text{Mind, N. S., 3(1883), 80.}\)
as it has an intensity of its own. But it is not active in the sense of directly changing presentations. Rather, it modifies the function of attention to objects. Hence it is the regulating function of the function of attention. In this sense it is a capacity; it is the capacity of interest and motivation. It is the central function of the mind. It depends upon attention, and attention depends upon it. Its relation to presentational objects is never direct, but always by means of the function of attention. This makes clear why experience is fundamentally conative. Attention is motivated by the secondary function of feeling. "The fundamental fact of experience, in a word, is the interest taken in, and not merely the bare presence of, this Non-Ego... But the Non-Ego has no interest in us... The relation of the two is then not symmetrical in any respect."¹

The results of Ward's general analysis of experience, an analysis which he considers the first step in psychology, proved to be the correlative factors of subject and object. The object is a presentation to the attending subject. This is more than a corrected Herbartianism. In the end we find that feeling, a secondary function of attention, motivates and controls attention more than the presen-

¹Immanuel Kant, pp. 12, 13.
"Action-under-Feeling" is the central fact of experience.

This brings analysis to the second inquiry which it must undertake. It must determine the relation of presentations to each other. Obviously these presentations are influenced in part by attention. Moreover, one type of continuity is already found to be implied in the mind: the continuity of consciousness or attention. This subjective continuity, as has been shown in the discussion of Ward's theory of method, is the ground of the law of continuity. Its nature is now explicit. The continuity of the object which corresponds to that of the subject must now be made explicit.
IV

THE CONTINUUM PROBLEM
CHAPTER VI
PRESENTATIONAL OBJECTS AS A CONTINUUM

Characteristics of Sensations

1. The nature of the relations of presentations brings our inquiry face to face with its central problem: the nature of the presentational continuum. Later a farther problem must be faced: the meaning of the continuum for psycho-physics. But psycho-physics is secondary rather than primary for Ward. The central question is: what does the presentational continuum mean for individual experience, i.e. what is the continuum as a constituent of someone's experience. This, as has been shown, is the only psychological viewpoint, according to Ward. Psychic objects are always presentations, data given to a subject. This brings the problem face to face with an ambiguity that must be made explicit before we can understand the conception of the datum in Ward.

Psychic objects are presentations because they are given to a subject. That means they are attended to by a subject. They could not be presented unless attended to. Hence attention controls the object, since it would not be presentation apart from attention.
Ward asserts in his discussion of sensations that the magnitude of the object is relative to the attending subject. Attention controls the standard of magnitude by means of restriction. The limitation of attention, die Enge des Bewusstseins as Herbart termed it, ipso facto controls the range of intensity and magnitude of the presentations, and thus sets the limits of the unit attended. This furnishes an absolute standard of magnitude, a magnitude which is relative to the experient. "... The quantitative characteristics of presentations are all as Aristotle said, 'relative to us.'" 

Despite the clarity of the theory thus far, it is not yet clear how the presentation has characteristics, which though relative in magnitude to attention, yet as types of magnitude and quality, belong to the object qua presentation, and not to attention. The probable answer to this question lies in the relation of function to quantity. Function has only one quantitative aspect according to Ward; it has intensity. Hence the other quantitative aspects of presentation, although relative to the limits of attention, belong to the presentation and not to the subject. This is Ward's general analysis. That

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1Psychological Principles, p. 89.
2Ibid., p. 117.
this point gave him some difficulty will appear later.

Attention and presentations are the results of the primary analysis. The problem of presentations must be solved in the light of attention. The problem of psychic objects is to discover those characteristics of presentations which make it possible for subjective activity, i.e. attention, to develop such experience as is found in human consciousness. The problem is one of explanation. Ward is not content merely to describe; he makes psychology an explanatory science. The subject is the clue to explanation; but complete explanation is not possible without a knowledge of those characteristics of objects which make development possible. This is the central problem of this essay.

All objects of awareness are presentations, whether they are percepts, images, or concepts. But the presentational continuum is a conception of the relation of sensations. In Ward's explanatory or genetic psychology we shall discover why he makes the presentational continuum so important. He considers that by creative synthesis imagination and intellect were developed out of sensation. So much for his genetic theory. Sensations are never found in human consciousness as atoms or units of a manifold. They are related, and related according to the law of
continuity. Attention is one type of continuity for psychology. It is known to be continuous for two reasons: (1) attention is a functional unity, and is not made up of a manifold of faculties, (2) psychology with its individualistic standpoint never transcends the esse that is percipere, as far as function is concerned. This very continuity of attention, the functional unity of the mental life, makes necessary a corresponding objective unity. "The screech of the owl, for example, has physically nothing to do with the brightness of the moon -- either one may come or go without changing the order of things to which the other belongs. But for me, the individual experient, these are the parts of one whole, not merely because special attention to one diminishes the intensity of the others, but also because as attention passes from one to the other it passes over no void. And not only are they parts of one whole, but such distinctness as they present is the result of gradual differentiation." ¹ Despite some vacillation on Ward's part, he seems to consider the functional unity of attention as the clue to the unity of the structural side of experience. "Moreover synthesis as a direct process precedes analysis, which is an indirect one;

¹Ibid., p. 49.
though analysis be the first in the order of knowledge, synthesis is the first in the order of existence. The proximate fact for the psychological observer is, however -- this much, at least, we may safely say -- a unity that is differentiated."¹ The primal synthesis, however, is beyond us, since we stand in mediis rebus, and hence the unity of objective field which we find at any stage of development.

The question now is: in what respects are presentations continuous? A very noticeable characteristic of sensations, according to Ward, is that they form many continua. It seems strange to him that the importance of this fact has not been more widely considered by psychologists. "There is one fact about the relation of these ordinary sensations to each other which, though well known to physicists, is scarcely recognized by psychologists; and that is that in several cases, perhaps in all, they constitute groups of continua. A musical note or the color of the sky does not admit of classification any more than the position of London does; but as this belongs to that continuum we call the surface of the globe, so do they to a continuum of tones and colors respectively. But by a continuum here I mean a series of objects such

¹Ibid., pp. 409, 410.
that between any two a series of others may be, or may be conceived to be, interposed so as to differ the less the more they approximate the series.\textsuperscript{1} This continuum conception is clearly drawn from mathematical physics. It is obviously the general Leibnizean view of continuity, dominant in the general mathematical physics of the nineteenth century. It is the conception latent in the calculus which Leibniz gave to modern mathematics and which all but the most recent physicists used. It uses infinitesimals, but infinitesimals which are themselves resolvable to other small units according to the convenience of the calculator. Although the conception is not directly drawn from Leibniz, yet it is related to Leibniz's theory.

But it would be a misunderstanding to assume that every continuity is due to extensity.\textsuperscript{2} Continua of color, for example, are continuities of qualitative characteristics. This is true also of tone continua. The motor continua vary in intensity.\textsuperscript{3} A typical representation of such a continuum is to be found in the color pyramid. The tone pencil less clearly diagrams the same thing. By a color or a tone

\textsuperscript{1}Journal of Speculative Philosophy, 17(1883), 170, 171.
\textsuperscript{2}Psychological Principles, p. 145.
\textsuperscript{3}Journal of Speculative Philosophy, 17(1883), 171.
continuum Ward does not mean the continuity that is present in the focus of consciousness at any one moment. These continua are continua which are the grounds of the explanation of the nature of presentational objects. Before turning to this explanation, it seems necessary to gain a clearer notion what sensation is. How are sensations discovered?

Sensations are reached by an analysis of percepts. "In a handful of rose petals we are aware at once of a definite colour, a definite odour and a definite 'feel'. Here there is a plurality (a+b+c), any item of which can be withdrawn from our immediate experience without prejudice to the others; for we can close the eyes, hold the nose, or drop the petals on the table."¹ But each sensation, e.g. the color blue, has characteristics which are not due to a plurality of units being fused into one unit, but rather are characteristics all of which are necessary to the sensation. "Let us now turn to the colour alone; this we say has a certain quality, intensity, extensity, &c. But not only have we not one sense for quality, another for intensity, another for extensity; we cannot reduce the intensity to zero and yet have the quality remaining: nor can we suppress the quality and still

¹Psychological Principles, p. 106.
retain the extensity. In this case then what we have is not a plurality of presentations \((a+b+c)\), but a single presentation having a plurality of attributes \((abc)\) so related that the absence of any one annihilates the whole."\(^1\)

It is now clear that sensations form continua by virtue of some characteristic, but this characteristic itself cannot be isolated as a separate presentation. There is a noteworthy characteristic that is connected with these continua. There are sensations whose presentation prevents the presentation of certain other sensations at the same moment.\(^2\) These sensations which cannot be presented together are members of the same continua. An object such as a piece of cardboard cannot be pure red and pure green at the same moment. However, it may produce a snapping noise at the same time that it has a definite color. Sounds, colors, tastes, and touches belong severally to different continua. They do not inhibit each other.

Our piece of cardboard however may be colored in different parts of its surface with different colors. This does not mean a mixed color. A mixed color has its own proper place in the color continuum. The

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\(^1\)Ibid., p. 106.

\(^2\)Ibid., p. 80.
mixture conception arises from the manner in which the colors are mechanically produced. Green has its own proper place in the color pyramid. What we refer to in our illustration is different colors on different parts of the cardboard. This presents a new complication. In this case of the cardboard which is colored in different parts of its surface with different colors, we seem to have the presentation of two members of the color continuum at the same moment. This leads Ward to recognize the mass or extensity of sensations.\(^1\) This extensity is not the mere presenting together of a number of sensations of the same quality. Such a solution leaves untouched the problem. In fact it only brings the problem more acutely to the fore, for it is not clear how qualitative homogeneity in any sense implies plurality. In fact, how can there be any distinction between objects of like quality unless there is some principle of distinction? Extensity serves as a principle of differentiation between objects of like quality and is such a modification of our notion of presenting together that it brings to light a new continuum. This extensity continuum furnishes variations in the qualia.

\(^1\)Ibid., pp. 125, 126.

\(^2\)Ibid., pp. 78, 79.
of locations within itself. These qualia are relations of the part to the extensive sensuous whole. Now we see how qualitatively identical objects may be presented simultaneously in the field of vision. It is because they are different in relation to extensity. In one sense they are not qualitatively the same, i.e. their quality, as parts of the extensity continuum, is different. Now we have the modification of our original thesis which makes it consistent with the facts as they are. "Thus, in any given continuum, we should say that the same local sign cannot at the same time be united with more than one object out of a series, all of which may be successively united with it and any of which may be simultaneously united with other local signs in the same continuum." These qualia are relations of the part to the whole. We can only understand the presentability of the members of any continuum as it is formulated in terms of these qualia or 'local signs' of the extensive continuum. "But such difference of relations to the whole can only be regarded as affording a ground or possibility of local distinction, not as being from the beginning such an overt difference as the term 'local sign,'

1 Ibid., p. 147.
2 Journal of Speculative Philosophy, 17(1883), 171, 172.
when used by Lotze, is meant to imply."¹

These local signs characterize the location of sensations within the extensity of the whole field of sensations. It is the extensity of the whole field of attended sensations which determines the local sign of the single sensation within it. This extensive continuum, as the ground of local signs, is the continuum of all the presentations which are given at any one moment. It is the presentational continuum. It furnishes the explanation of the fact that two members of the same qualitative continuum cannot be presented together if they have the same local sign. This leads to a problem which Ward leaves somewhat unclear: how does such a continuum allow a change in sensations.

The continuum of sensations is not static. There is change from moment to moment. It is not discontinuous change, but the continuum cannot furnish the reason for the change. "Why sensations occur or recur, coexist together together or succeed each other as they do, no psychology can explain, no psychologist has ever attempted to explain. Sensations one and all are intrusions, interferences, affections, or modifications in the 'mental series.' So far they are proof positive that the series does

¹Psychological Principles, p. 147.
not altogether go along by itself."\textsuperscript{1} Ward does not intend that the presentational continuum should furnish the reason for the changes within it. Still it is not clear how an extensive continuum can change and yet be the ground of locations. What remains behind the sensation when it has departed that is then assigned to the sensation that follows it? Local signs are relations of simultaneity. How do they remain unchanged when there is succession?

Unfortunately Ward has not stressed the most central aspect of his continuum theory. We have already seen that different members of the same continuum of sensations cannot occupy the same place in the presentational continuum at the same time. This point Ward has not sufficiently stressed. But many members, each from a different continuum of sensations, may occupy the same place in the presentational continuum at the same time. In short, an object may have a smell and be green at the same time. Now there is a continuum of sensations which might be called, for the want of a better word, tactual. The skin furnishes sensations "... coextensive with the whole superficies of the body..."\textsuperscript{2}

\textsuperscript{1}Naturalism and Agnosticism, p. 319.

\textsuperscript{2}Psychological Principles, p. 135.
Thus for each differentiated portion of the presentational continuum there is always present a sensation of passive touch. These sensations of passive touch form a continuum of tactual diversity. This is the continuum of local signs. These give a local coloring to each point in the presentational continuum. "Assuming then that to every immediately distinguishable part of the body there corresponds a local sign, we may allow that at any moment only a certain portion of this continuum is definitely within the field of consciousness."¹ The diversity of local coloring remains an invariable one. Also, due to the extensity of the presentational continuum, the relations of these tactual sensations do not change. These constant tactual sensations are the qualia of extensive position. A sensation which is not tactual has location within the presentational continuum because of the extensity of that continuum; the local sign which characterizes the location within the continuum is a permanent tactual sensation.

It may appear at first that this continuum of positional qualia or local signs is merely a space continuum. Ward rejects this theory. He considers that extensity is a simpler experience than that of

¹Ibid., pp. 147,148.
space.¹ Extensity is one element in space perception; but space also involves kinaesthetic experience. Kinaesthetic sensations qua kinaesthetic could not furnish us space because space perception implies the primitive ubiquity of extensity. "As regards the motor element itself, on the other hand, the first point of importance is the incopresentability and invariability of a successive series of auxilic-motor or kinaesthetic presentations, P₁, P₂, P₃, ..., Pₙ. P₁ cannot be presented along with P₂, and from P₄ it is impossible to reach P₁ again save through P₃ and P₂. Such a series, taken alone, could afford us, it is evident, nothing but the knowledge of an invariable sequence of impressions which it was in our own power to produce."² Thus it is obvious that Ward, in common with Herbert, thinks that space is a blending of several constituents. Both extensity and motor elements are required in the interweaving of elements which is our perception of space. "Herbert's doctrine of the presentational series and the interweaving of such a series ... help us materially in trying to understand the intimate blending of the spacial elements implied in that almost instinctive

¹Ibid., p. 149.
²Ibid., p. 150.
localisation or projection of impressions.\textsuperscript{1}

Now it is clear that Ward cannot agree with Herbart, Mill, and Spencer in their theory that space perception is derived from non-extended sensations, if motor experience be taken into consideration. "The most elaborate attempt to get extensity out of succession and coexistence ... is that of Herbert Spencer. He has done, perhaps, all that can be done, and only to make it the more plain that the entire procedure is a ὑστερον πρότερον. We do not first experience a succession of (active) touches by means of movements, and then, when these impressions are simultaneously presented, regard them as extensive, because they are now associated with or symbolize the original series of movements. But, before and apart from movement altogether, we experience that massiveness or extensity of impressions within which, \textit{when it is differentiated}, movements enable us to find positions, and to determine distances."\textsuperscript{2}

However, this presentational continuum explains more than the mere "places" of objects. Ward considers that extensity must be the ground of mental growth by discrimination. A simple intensity does

\textsuperscript{1}Mind, O. S., 14(1889), 110.

\textsuperscript{2}Psychological Principles, p. 146.
not allow for discrimination unless it be in terms of grades or degrees, but this cannot account for the gradual discrimination of colors, for example in a spectrum. There must be a ground of plurality which permits of differentiation.\(^1\) "A sensation of a certain intensity, say a sensation of 'warm,' cannot be changed into one having two qualities, warm and cold, leaving the intensity unchanged; but with extensity the corresponding change is possible."\(^2\) Extensity presents an adequate ground for differentiation. Every extensity, it matters not how small, is a ground for further differentiation. "In other words, to say that a single presentation has massiveness is the same as saying that a portion of the presentational continuum, at the moment undifferentiated, is capable of differentiation ..."\(^3\) Now it is clear how progressive differentiation is possible. The creation of new local signs is merely the differentiation of the presentational continuum which up to that time, although capable of differentiation, has not been differentiated.

The differentiation of the presentational

\(^1\)Ibid., p. 147.
\(^2\)Ibid.
\(^3\)Ibid.
continuum into local signs also makes possible the
discrimination or differentiation of the qualitative
continua. This differentiation of the qualitative
continua is a point which Ward does not clearly
expound. He does not show how the differentiation of
the presentational continuum makes possible the
differentiation of the qualitative continua. It must
be remembered that these continua are not simultaneous
presentations as the presentational continuum is.
From this clue we can work out Ward's theory of the
differentiation of the qualitative continua. Since
at the same moment two members of the same qualitative
or intensive continuum cannot occupy the same place in
the presentational continuum, successive changes in
the presentational continuum allow the different
qualities of these continua to be presented seriatim,
i.e. successively. Such changes of quality within a
position are never disconnected changes.¹ There are
always degrees of change. An orange which we see in
the growing twilight never changes instantaneously
from one color into another; but it passes through all
the intervening colors of the color continuum. Thus
there is a continuity of the qualitative continua in
the succession of changes within the presentational

¹Ibid., p. 77.
continuum. Of course there is discrimination of color within the presentational continuum; but the qualitative continua are only given as continua of changes within the presentational continuum. Thus it is the discrimination or differentiation of duration or protensity, as Ward terms it, which makes possible the discrimination of the qualitative continua qua continua. This makes necessary an understanding of Ward's theory of protensity or duration, a very complex conception and somewhat obscure. Its importance however is primal for an understanding of the presentational continuum.

The Presentational Continuum and Protensity

3. In the Psychological Principles there are two lists of the characteristics of sensations. They differ only in one item. Both lists give the characteristics of quality, intensity, and extensity. One list however contains the characteristic of protensity;\(^1\) the other does not.\(^2\) In an article, written for Mind and published after the appearance of the Psychological Principles, we find this explicit assertion, "Protensity is not, as extensity is, a

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\(^1\)Ibid., p. 105.
\(^2\)Ibid., p. 78.
sense-datum, though we ascribe it to sense-data."¹

Here there is apparent confusion. The problem must have caused Ward some difficulty because he never deals with it explicitly as he does the problem of extensity. The difficulty lies in the separation of presentation from attention. Ward's theory of presentations as presentations to a subject means, as we have found, that the presentation is presentation because it is attended to. If so, the sharp separation of presentations and attention is not so possible as Ward's theory of the structural nature of sense-data led him to think. In his early accounts, in Herbartian fashion, he attributed duration to the objects of attention. The subject furnished the standard of the measure of duration. But as his Herbartianism became more transfigured and the fuller meaning of the notion of attention dawned upon him, it became increasingly clear, I think, that although extensity and quality are the characteristics which can not be ascribed to the function of attention; duration, however, may be ascribed to the continuum only by virtue of the attending subject's activity. Duration is not a characteristic of the continuum in the same sense that extensity is. There is change in

¹Mind, N. S., 29(1920), 132.
the continuum; but this change is not protensity. The changes, however, are only perceived as successive because of the activity of the abiding subject. In his last formulation of the problem Ward probably gives us the conception toward which his thought had tended during the whole period of his more mature psychological thinking. "Thus we find in the perception of time", he says, "as we found in the perception of space, a factor that disappears from their concepts. But the two factors are very different; there it was extensity--which is objective; here it is what we have called protensity--which is essentially subjective. It is through this that we ascribe the sense-data the characteristic of duration, and so speak of that too as protensity."¹

Now it is clear that "duration, in fact, as experienced is inseparable from the activity that all experience implies: it means not barely to exist but actively to persevere or persist."² How this duration is attributed to the sensation, it is difficult to say, since according to Ward's theory the activity of attention is not a presentation. In the Psychological Principles protensity is described as 'a peculiar

¹Mind, N. S., 39(1930), 130.
²Mind, N. S., 39(1930), 131.
This characterization of protensity occurs in one of the portions of the book which were the latest to be written. This theory is part of the general conception of duration as subjective. Protensity is the intensity of the movements of attention. Ward's theory seems to be that we recognize duration by the change or rhythm of attention in relation to certain perceptual objects. These changes are sometimes termed by other psychologists 'movements of attention'. Of course in the objective description of duration change of the continuum is essential. The local signs furnish the clue to changes within the whole. But true duration is subjective. It is not presented. Duration is known to be from the relation of the changing part to the presentational whole. This change in the presentational continuum is the objective counterpart of duration. But this objective counterpart would not be possible without the continuous attention of the subject which abides throughout the change. This seems to be Ward's final theory of duration.

It is now clear that duration is only attributed to the sense-datum because of its relation to the

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1 Psychological Principles, p. 317.
2 Mind, N. S., 39(1930), 133.
rhythm of attention. The continuum as a whole remains because it is the extensive field of sensations experienced at any one moment. The continuum abides because it is the whole which corresponds to the abiding unity of the subject. There are changes within the continuum just as there are movements of attention; but the continuum as an extensive field remains. The local signs do not shift. Now it is clear that the presentational continuum changes in qualities from moment to moment but in one sense abides.

We are now in a position to answer our essential question, i.e. what does the presentational continuum mean for individual experience. We have found that it is the whole of sensory presentations at any given moment; that this sensory whole is extended as a whole; and that this extensity makes possible by means of differentiations within it local signs or the placing of differentiated qualities by means of mutually excluded places. This sensory continuum by virtue of attention is characterized by duration or a rate of change. The changes are modifications of the qualities of different places within it. These changes are aspects of the continuum per se; but the protensity or tempo of change is subjective. The
presentational continuum is not obvious because of the prominence of the differentiations within it, and of the new integrations of the differentiations which are our perceptual objects. The manifoldness of the perceptual field of attention obscures the extensive continuity which characterizes it as a whole. But this extensive continuity is for Ward the explanation of local signs and the possibility of mental growth. It is the key to the objective characteristic of experience which makes possible psychological explanation. To the problem of explanation we now turn.
CHAPTER VII

THE PRESENTATIONAL CONTINUUM AND GENETIC PSYCHOLOGY

The Plasticity of the Presentational Continuum

1. The presentational continuum as the extended sensory field which includes all the sensations at any one moment as one continuous field is an explanation of local signs. Ward's theory explains that aspect of topical experience which Lotze's theory leaves obscure, i.e. Ward's theory of an extensive continuum as the ground of differentiation explains the increased topical discrimination which characterizes mental growth. Extensity is the ground of latent plurality.¹ So much has been made clear by our preliminary analysis of the continuum conception. This analysis itself had to take into account the explanatory nature of the continuum. The continuum proved to be the ground of local signs. But the continuum as an explanatory concept cannot be developed apart from a more complete explanation of the notion of differentiation and the retention of differentiation. It is the plasticity of the presentational continuum which

¹Psychological Principles, p. 147.
explains mental growth.¹

The notion of plasticity, as used by Ward, is an analogous one to that of biology. It is a structural term and indicates the capacity to be modified by function in a progressive manner. That means that previous modifications produced by function are retained as permanent modifications of that which is operated upon by function. The most primal aspect of plasticity for Ward is 'differentiation'.² This term is a biological one; and the psychological conception denoted by it is analogous to the biological. Function, by a division of the continuum, brings out the latent plurality. We find that by analysis of mental growth the previously undifferentiated becomes differentiated. "If needful, we might find in biology far better analogies to the progressive differentiation of experience than in the physical upbuilding of molecules. The process resembles a partial segmentation of what is originally continuous rather than an aggregation of elements at first independent and distinct."³

It is to be noted that differentiation of the

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¹Ibid., p. 83.
²Ibid., pp. 75-83.
³Ibid., p. 76.
presentational continuum is the differentiation of an extensive field or totum objectivum. Every differentiation has an absolute position within the continuum. There are 'matters of fact' which are the mere awareness of these differentiations. The thetic or existential propositions which we mentioned in the discussion of Ward's theory of knowledge are the verbal expressions of these simple matters of fact. In the impersonal proposition the 'it' refers to the whole continuum within which the differentiated sense-datum has a location.¹ This theory of sense-data as absolutely located within a continuum has a very realistic sound. The existential proposition is absolute because of the extensity of the presentational continuum. But Ward differs from Alexander, Russell, Norman Kemp Smith, and others of the realistic school in two very important regards: (1) sense-knowledge for Ward is phenomenal and relative to the perceiving individual, and hence is not mathematical knowledge; (2) the sense-data are not located in homogeneous space but have position in a continuum which has neither the homogeneity nor simplicity of space.² Thought-knowledge is elaborated out of sense-knowledge

¹Mind, N. S., 38(1919), 258-267.
²Psychological Principles, p. 144.
by means of the activity of attention. Sense-knowledge is not epistemologically objective for Ward as it is for the realists.

Plasticity involves not only differentiation but also the persistence of the differentiation. This retentiveness is implied in the conception of progressive differentiation. Retentiveness is not to be confused with memory. It is not a contrast of past and present but a mere retention of differentiations once made. Let us consider with Ward one of his own examples. It may make the conception clearer.

"Suppose, then, that in the course of a few minutes we take half a dozen glances at a strange and curious flower. We have not as many complex presentations, which we might symbolize as $F_1$, $F_2$, ... $F_6$. But rather, at first only the general outline is noted, next the disposition of petals, stamens, &c., then the attachment of the anthers, position of the ovary, and so on; that is to say, symbolizing the whole flower as $[p'(ab) s'(cd) o'(fg)]$, we first apprehend say $[p' ... s' ... o']$, then $[p'(ab) s' ... o']$, or $[p'(a ... ) s'(c ... ) o'(f ... )]$, and so forth. It is because the traits first attended to persist that those noticed later form an addition to them so that the complex at length may be complete."

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1Ibid., p. 81.
differentiations do not fade away like ripples upon
the water. They remain as a modification of the
continuum.

The older modifications are not "like old scars
beside new ones". New differentiations are combined
with the older differentiations "like a continually
growing picture," a blending of the old with the new.¹
This blending of the older and the newer differenti-
tations Ward terms 'assimilation'. Ward protests
that this blending is not association. "For the
experiencing subject there is apparently at this
stage -- as we have already urged -- neither the
numerical distinctness nor the qualitative identity
which the words 'past impression (A₁)' and 'present
impression (A₃)' suggest."²

It is now clear that the notion of the progressive
development of the presentational continuum involves
differentiation, retentiveness, and assimilation.
This is what Ward terms the plasticity of the
presentational continuum. Although plasticity is
the characteristic of the continuum, yet it obviously
implies the differentiating activity of the subject.

¹Ibid., p. 83.
²Ibid.
Correspondence' and Regress

2. The conception of plasticity is implied in the notion of progressive differentiation through the activity of the psychological subject. A plastic continuum is very different from the continua of the mathematicians. The presentational continuum is not homogenous. It is like the mathematical continua only in the characteristics of extensity and infinite divisibility. Although Ward derived his notion of continuity from mathematical physics, his presentational continuum as a plastic extensity capable of differentiation is more nearly akin to Aristotle's continuum of living substance. Aristotle derives his physical continuum from the prior conception of vital continuity. He considers that divisions within the continuum are to be conceived as potentialities which in time become actualities.\(^1\) The mathematical continua are abstractions from the continuity found in vital quantitative continuity.\(^3\) Ward's theory has much in common with this Aristotelian conception. The presentational continuum is concrete and not abstract. It is plastic and hence not homogenous. But he disagrees with Aristotle in so far as

\(^1\)Met., 1040b 10 sq.
\(^3\)Ibid., 1061a 38 sq.
differentiations are for him the capacity of the continuum and not preformations within it as Aristotle thought them to be. Ward considers that selective attention is implied by plasticity.

This plasticity of the presentational continuum which implies selective attention is the basis of Ward's theory of explanation. Progressive differentiation, retentiveness, and assimilation are analogous to the advance to be found in biological advance. The activity of the subject upon the plastic object is the clue to mental development just as differentiation and integration are the clue of biological advance.¹ Now if we apply the principle of continuity to this conception of psychical advance, we are led backwards from what we now find to a continuum which is less and less differentiated as we proceed back. "Working backwards from this as we find it now, we are led alike by particular facts and general considerations to the conception of a totum objectivum or objective continuum which is gradually differentiated."² Ward does not assert what the very beginning of this continuum is. However, the limiting conception of the presentational continuum is an as yet undifferentiated...

²Psychological Principles, p. 76.
tiated presentational field of attention. This is the
ground of psychological explanation. Given this
continuum and the activity of attention, Ward
considers that psychology may explain mental growth.

It has already been made clear that Ward's
conception of continuity makes necessary the hypothesis
of the psychological individual, an imaginary experient
whose life-history "would correspond with all that was
new in the experience of a certain typical series of
individuals each of whom advanced a certain stage in
mental differentiation. ... From this history would
be omitted that inherited reproduction of the net
results of ancestral experience, that innate tradition,
so to say, by which alone, under the actual conditions
of existence, racial progress is possible."

The solution of the problem of heredity is left for
speculations that lie in the realm of concrete
psychology of the individual life and metaphysics.
For general psychology the conception of the
psychological individual is a necessary one; for
without it general psychology faces the dilemma of a
postulate which apparently contradicts the facts of
heredity. Ward thinks that heredity does not
contradict the principle of psychological continuity.

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1Ibid., p. 75.
The indication of the manner in which heredity really conforms with the principle of continuity is best postponed until the general outlines of progressive development are made clear.

This phylogenetic development of experience follows the analogy of biological development. This biological development is also phylogenetic. Ward follows Herbert Spencer in his development of the theory of progressive differentiation. Spencer's theory of 'correspondence', or the analogy of physical and mental growth, influenced Ward's theory of mental development. "... The analogies that guided Herbert Spencer in treating the same topic are the best we have, and psychology is much indebted to him on this score. ... Between the advance from the egg to the chicken and that from the child's mind to the man's, the parallel, mutatis mutandis, is very close."¹

The advance of racial experience also follows the general analogy of the growing complexity of the biological development of the race. This correspondence itself indicates that the advance of experience is from the simple to the complex. The explanation of the order and system in our human experience lies in the subject and the plastic presentational continuum.²

¹Ibid., p. 410.
²Ibid., p. 411.
The activity of the subject is central in Ward's conception of psychological explanation; but the nature of the object must be such as to be a ground of mental advance. The plastic sensory continuum as an extensive field explains not only what is true in Lotze's theory of local signs but also the growth of place discrimination and mental growth in general. Ward's presentational continuum unites in itself many different theories of psychology into an unexpected unity. It even is extended into a theory of the subconscious. This conception of the subconscious is also an expression of the principle of continuity.

The Presentational Continuum and the Subconscious

3. Ward considers that the field of consciousness, i.e. the presentational continuum, extends ad infinitum: "in other words the continuity of our presentational continuum will be thoroughly, as it was with Leibniz." The line between explicit consciousness and hazy consciousness is not a clear one. There is the focus of attention within the continuum. Other objects beyond the focus have less clearness, the greater their distance is from the focus.  

1Ibid., p. 90.
2Ibid., p. 91.
The threshold of consciousness may be extended by change of the force of attention. This seems to indicate that the field of sensations has no definite boundary and is continuous with the focus of attention. To assume that the threshold is an absolute demarcation between the conscious and the unconscious means that attention might call a non-presentation from non-being into being. That would mean that presentations were determined from one side only, as far as intensity is concerned. According to this view "a man asleep might awake proprio motu, but to awaken him would be impossible."\(^1\) The theory of the subconscious is nothing more than the principle of continuity applied to the facts of presentation. It was Leibniz who introduced this conception into psychology. Ward derived it from him.\(^2\)

We now see that the presentational continuum brings together many "previously unconnected speculations into unexpected unity."\(^3\) By means of the continuum Lotze's theory of local signs is brought into harmony with a theory of growth. Leibniz's theory of the subconscious is united with the Kantian

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\(^1\)Ibid., p. 93.

\(^2\)Ibid.

\(^3\)The British Journal of Psychology, 16(1935), 2.
recognition of the distinction between content or datum and the function which organizes the datum. Kant's theory of the manifold is transformed into a theory of differentiations within a plastic extensity. Herbart's theory of the presentation is transformed into a vital notion of plasticity which is modified by selective attention.

The principle of continuity has still wider application than we have so far made clear. Ward considers that there is a continuity between sense and understanding. To completely understand the presentational continuum this continuity must be made explicit. This is our next problem.
CHAPTER VIII
GENESIS OF THE SECONDARY CONTINUA AND INTELLECTION

The Motor Continuum

1. The theory of movement plays a large role in Ward's psychology. To understand it we must approach it from two sides: the subject side and the object side. Let us consider the subject side first. It has already been made clear that feeling is related to attention. Non-voluntary attention is such as occurs without the intervention of feeling. It is the cognitive phase of experience. This cognitive phase of attention causes pleasure or pain as a subordinate function. "In short, feeling appears to be an effect, which therefore cannot exist without its cause, though in different circumstances the same immediate cause may produce a different amount or even a different state of feeling."\(^1\) The attention which follows this feeling is not a merely receptive attention. It is attention controlled by feeling. This attention causes movement, or in complex cases a change 'in the train of ideas'.\(^2\) Keeping our exposition upon the

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\(^1\) Psychological Principles, pp. 43, 44.

\(^2\) Ibid., p. 56.
plane of the simpler situation, since we shall deal with ideas later, we find that to the difference of receptive and active attention there corresponds a difference of objects. 'Active' attention is directed to motor presentations. Ward's theory is that attention to these objects causes action. Are these objects or presentations sensations? Ward considers that they are. It is unfortunate that he gives no account of the genesis of distinctly motor objects from the presentational continuum. There is also some obscurity of usage in the terms employed. At one time motor presentations are termed 'sensory'; at another time they are placed in opposition to sensations. This confusion is due to the shift from analytic psychology to genetic psychology and back again without making explicit the change of standpoint. From the genetic standpoint, where the presentational continuum as an undifferentiated sensory extensity is the only object and the ground of explanation of the developing experience, the motor objects which are not yet completely differentiated from the presentational continuum are sensory in character. From the stand-

1Ibid., p. 137.
2Ibid., p. 136.
3Ibid., p. 137.
point of the analytic psychology of human experience, motor presentations form a continuum which is distinct from the sensory continuum. In genetic explanatory psychology motor presentations are in the first instance sensory. Ward unfortunately does not make clear the status of the two types of objects in the early development of experience. Apparently in elemental experience the distinction between motor and sensory presentations is very slight, and as in the case of the 'simple reaction-time' experiments of Wundt, the same attention is both receptive and reactive.¹ Hence there is not a sharp differentiation between sensory and motor objects.

Gradually by differentiation the 'sensations' of 'innervation, effort or resistance' are sharply separated from the rest of the presentational continuum. This group of presentations gradually becomes separated because it has a unique characteristic not possessed by the rest of the presentational continuum. "The broad fact we want to seize is, that, whereas sensory presentations enter the field of consciousness ex abrupto, motor presentations have, normally, definite and assignable psychical antecedents. We cannot explain psychologically the

¹Ibid., p. 68.
order in which particular sights and sounds occur; but the movements that follow them, on the other hand, can be adequately explained only by psychology."  

Apparently Ward considers that these motor presentations have extensity which they originally shared with the rest of the presentational continuum, but this is not the unique characteristic of these presentations. "In motor objects, qualitative differences are at a minimum, the continuum consisting wholly of gradations of intensity."  

Motor presentations are not what psychologists usually term 'kinaesthetic sensations'. Ward regards kinaesthetic presentations as true sensations, i.e. as parts of the sensory continuum. He would prefer to call them 'auxilic-motor objects'; but he does not urge the term because it has received no acceptance.  

Motor presentations, on the other hand, are not 'organic sensations' but rather presentations of effort. In the development of experience the differentiation of motor presentations was very easy because of their relative simplicity. Hence they were the more readily isolated from the rest of the

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1 Mind, O. S., 8(1883), 480.  
2 Journal of Speculative Philosophy, 17(1883), 171.  
3 Psychological Principles, p. 136.
presentational continuum and set in opposition to the
genral sensory continuum from which they were
developed. At first this was one continuum which was
gradually differentiated. But it tended to break up
into minor continua. "Movements, we must suppose,
originally belonged to one undifferentiated, or
rather imperfectly differentiated continuum; but as
development advanced, tended more and more to become
like sensations, a collection of special continua, i.e.
groups of distinct movements separately possible and
admitting of definite combinations in various ways."¹

Differentiation of the motor continuum is due to
attention. Feeling changes the intensity of the
attention and this causes movement. "Let us suppose,
then, that we have at any given moment a certain
distribution of attention between sensory and motor
presentations; a change in that distribution will
mean a change in the effective intensity of some of
these, and, in the case of the motor presentations,
change of intensity means, at any rate, a tendency to
change of movement."² Change of the intensity of
attention causes movements.

These peculiar sensations, called 'motor
presentations', are controlled by attention.

¹Ibid., p. 137.
²Ibid., p. 54.
So much has already been made clear. Likewise they control to some extent other sensations. "... It is to be remembered that the subject obtains command of particular movements out of the mass involved in emotional expression only because such movements, when they occur, are found to control certain sensations."¹

Now these controlling movements make possible the integration of the sensations in perceptions. Ward considers that apart from this motor synthesis, there could be no perception. "Apart from this intervention of controlling movements, the presentation-continuum -- no matter how much it became differentiated -- would still remain, for all purposes of knowledge, little better than the disconnected manifold for which Kant took it."²

Now it is by means of this integration of the differentiated sensations of the continuum that space perception is developed. The local signs have their place in perception; but kinaesthetic and active tactual elements are also involved. The developed percept furnishes the 'intuition of things' in space, and also the orientation of things in relation to each other. It is movement that makes possible the

¹Ibid., p. 140.
²Ibid.
'positional signs' or succession of kinaesthetic sensations which accompany the motor presentations. These positional signs are an invariable successive series of signs which must be passed through in making movements. These are signs of position, whereas the local signs are signs of place. The former are characterized by succession; the latter by simultaneity.¹

Now it is clear that the presentational continuum is not space, as Professor Norman Kemp Smith thinks that it must be. The presentational continuum is not reached by psychical analysis. It is not recognized as a continuum at the perceptual level, or the conceptual level. Ward thinks that we sometimes directly experience the motor continuum, but not the presentational continuum. "But whereas we can only infer, and that in a very roundabout fashion, that our sensations are not absolutely distinct, but parts of one massive sensation, as it were, we are still liable, under the influence of strong emotion, directly to experience the corresponding continuity in the case of movement."² The presentational continuum must be assumed if the nature of perception

¹Ibid., p. 150.
²Ibid., p. 53.
is to be intelligible. The presentational continuum is only explicit at very elemental levels of experience.

The motor continuum, in organization with the presentational continuum, creates the perception of space objects. The growth of space perception involves the 'blending' of Herbart and the 'local signs' of Lotze. But perception is also re-presentative. "Even the simplest percepts ... involve not only present experience but also experiences of the past ..."¹ This re-presentation is involved in the conception of assimilation which Ward considers to be a fundamental aspect of the plasticity of the presentational continuum. The re-presentative aspect of perception leads us to Ward's theory of the nature and genesis of the ideational continuum.

The Ideational Continuum

2. Ward has traced the genesis of the ideational continuum very carefully. "... It seems manifest that a secondary continuum has been in some way formed out of, or differentiated from it in consequence of movements of attention."² The tracing of the genesis

¹Ibid., p. 167.
²Ibid., p. 177.
involves the determination of the steps of development from the presentational continuum to the ideational continuum.

The first intermediate form is the 'after-image', a form which Ward would prefer to call 'after-sensation'.\(^1\) It is to be noted that 'after-sensations' remain as vestiges of percepts after the percepts have disappeared; but what is more important still, they are not affected by movement as percepts are. "If we turn away our eyes we cease to see the flame at which we have been looking, but the after-sensation remains still projected before us and continues localised in the dark field of sight, even if we close our eyes altogether."\(^3\)

The next intermediate form is that of 'recurrent sensations'. These are cases "... in which sights or sounds, usually such as at the time were engrossing and impressive, suddenly reappear several hours or even days after the physical stimuli, as well as their effects on the terminal sense-organ, seem entirely to have ceased."\(^3\)

The earliest form of the idea or image proper is

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\(^1\)Ibid., p. 174.

\(^2\)Ibid.

\(^3\)Ibid., p. 175.
what Fechner called the 'memory after-image'. "As an instance of what is meant may be cited the familiar experience that a knock at the door, the hour struck on the clock, the face of a friend whom we have passed unnoticed, can sometimes be recognised a few minutes later by means of the persisting image, although — apparently — the actual impression was entirely disregarded."¹

Ward considers that the elaboration of these forms out of the presentational continuum is due to the action of subjective selection. There was attention upon the recognition aspect of the percept. Some animals show a sagacity called by G. H. Lewes 'preperception' e.g., "the sight of ice yields the forefeel of its coldness, the smell of baked meats a foretaste of their savour."² It is noteworthy that this preperception is dominated by subjective interest and reveals a certain independence from the present perception due to the interest of attention. Ward's thesis is that due to attention dominated by interest this re-presentative aspect of experience has developed. Slowly it is emancipated from the presentational continuum until the image proper is free and may be

¹Ibid., p. 175.
²Ibid., p. 186.
brought back to attention apart from the movements which control sensations.

At first these images are generic and without temporal orientation. It is only by the differentiation and assimilation of images that a recognition of temporal sequence is developed. It is by this means that the memory thread is evolved. The free ideas are organized according to the sequence of attention and hence have an order which is determined by the subject rather than the form of the object.¹ Into this thread new images are assimilated. Ward does not consider that such assimilation is true association. Association involves the distinctness of the images; but assimilation does not involve such distinction and separation.²

Ward has a theory of temporal signs that is analogous to his theory of local signs. The term and the conception he borrowed from Lotze.³ These temporal signs are signs within a continuum of ideas. As we have seen, they represent the order of attention given to perception. Thus the memory continuum stands in contrast to the order of perception.

¹Ibid., p. 205.
²Ibid., p. 183.
³Ibid., p. 203.
In harmony with this general theory of the memory continuum as a 'thread', Ward considers that association is by contiguity alone. Other forms of association are derivative from this primitive form. The contiguity, however, is due to the selective movements of attention which have organized the memory continuum. "Thus the most important peculiarity of this continuum is that it is a series of representations integrated by means of the movements of attention out of the differentiations of the primary or presentation-continuum, or rather out of so much of these differentiations as pertain to what we know as the primary memory-image."  

The memory thread is a mere series of images. As it is elaborated by the repetition of events, the thread is developed into what Ward calls a 'tissue'. This is the ideational continuum. This continuum involves weak and strong portions. Images do not form a mere series within it. "One who had met the king but once would scarcely be likely to 'think' of him without finding the attendant circumstances recurring to his mind as well; this could not happen to...

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1Ibid., p. 192.
2Ibid., pp. 196, 197.
3Ibid., p. 199.
one who had met the king in a hundred different scenes. The central representation of the whole complex would have become more distinct; whereas the several diverging lines, by involving opposing representations, would tend to neutralise each other, so that probably no definite background would be reinstated.¹ The ideational continuum contains generic images and not merely a train of specific images. It is not a separate continuum that stands in contrast to the memory continuum. It is a transformation of the memory continuum. It makes ideas or images even more free than they were in the memory continuum.

Ward does not explain the relation of ideation to action. He evidently considers it obvious from his general theory. It must first be noticed that attention may be directed to a train of ideas rather than the sensory continuum.² Action which is due to the domination of feeling which in turn was caused by attention to the ideational continuum furnishes us with the simplest form of ideo-motor action. This activity which is due to the ideational continuum may be very rapid or it may be tardy in execution.

¹Ibid., p. 199.
²Ibid., p. 56.
The activity of attention may be directed to the manipulation of ideas themselves.\(^1\) Thus an entire psychosis might be almost entirely in the attending to the ideational continuum, i.e., both passive and active attention might be given to the ideational continuum.

There is another obscurity in Ward's exposition of the theory of ideation. It is not clear how the presentational and ideational continua are related in developed human experience. "For it seems manifest that a secondary continuum has been in some way formed out of, or differentiated from it in consequence of movements of attention. Still the precise connexion of the two continua is very difficult to determine."\(^2\) Ward's only answer is the tracing of the steps by which the ideational continuum was developed. How images are formed out of impressions after the ideational continuum is formed is not made clear. The assumption seems to be that it is due to attention. The method of genesis, however, is not made explicit.

It is now clear why Ward terms the ideational continuum a secondary continuum, and the presentational

\(^1\)Ibid., p. 56.

\(^2\)Ibid., p. 177.
continuum the primary continuum. This usage is appropriate at the level at which ideation is explicitly developed. Thus the term presentational continuum has two slightly diverse usages. First, it means the totum objectivum at the level of development at which the field of consciousness is one sensory continuum. Second, it also means the sensory field which stands in contrast with other presentations, at the levels of the development where explicit ideation and intellection have developed. The former is the explanation of the development of ideation and intellection; the latter is the explanation of the local signs and increasing discrimination. But the difference between them is one of the place of the sensory field in the genesis of the mental life. These are two aspects of one genetic theory. In general, however, Ward uses the term 'presentational continuum' to denote the primitive continuum from which by subjective selection perception, ideation, and intellection are developed. That brings us to the next point in our inquiry: how is intellection developed upon this theory of explanation. We shall deal with the problem briefly, since only the main outlines need to be made clear.
The Continua and Intellecction

3. Thought for Ward is discursive. "... Thinking -- at our level -- may be broadly described as solving a problem -- finding an ax that is b. In so doing we start from a comparatively fixed central idea a and work along the several diverging lines of ideas associated with it -- hence far the aptest and in fact the oldest description of such thought is that it is discursive."

Thought is an elaboration of ideational content in order to achieve some end. "Like other forms of purposive activity, thinking is primarily undertaken as a means to an end, and especially the end of economy. It is often easier and always quicker to manipulate ideas than to manipulate real things; to the common mind the thoughtful man is one who 'uses his head to save his heels'." This is not a matter of mere abstraction. It is selective attention to determine "light-bearing and fruit-bearing combinations". The motor image of the name is very helpful in this respect. It frees the mind to a larger extent from perception than

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1Ibid., p. 395.
2Ibid., p. 303.
3Ibid., p. 304.
does the concrete generic image. It may be more generic and is much more flexible than the image. Hence it is the instrument of all but the most elemental thought.

Concepts are formed out of the matrix of the ideational tissue. Association, for Ward, is by means of contiguity. Thus even in the ideational continuum the perceptual order still controls. But upon the intellectional level there is a new situation. Due to selective attention, aspects of the ideational tissue are isolated and by attention are organized into new unities. Thus the ideational continuum furnishes the material of knowledge. But the form comes from the organizing work of attention. First intellectual attention analyzes the material of the ideational continuum, and then it re-synthesizes it into new unities. This is the creativity of thought. Thought is activity. But it organizes given material. Pure thought -- a mere analytic concept -- is the selective activity. But it does not exist apart from material which it operates upon.

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1Ibid., p. 396.
2Ibid., p. 303.
3Ibid., p. 313.
4Ibid., p. 305.
Thought does not exhaust knowledge. There is sense-knowledge which is a mere awareness of 'matters of fact' in the presentational continuum. But thought is at the level of the analysis and synthesis of ideational material. Thought-knowledge is more than awareness; it is the elaboration of material to determine "light-bearing and fruit-bearing combinations". The categories are functions of synthesis.

We now see how, due to subjective selection, intellection developed out of the ideational continuum. Intellection is not a continuum. It is an organization of the ideational material into new forms. It is not possible until ideation has sufficiently advanced to make possible mobile images. But the difference between ideation and intellection is vast, since imagination is in terms of association, whereas intellection brings into play relations that are free from contiguity and the perceptual combinations. Intellection makes possible creative choice. From the general outlines of Ward's theory it seems that intellection is only indirectly related to the presentational continuum. It deals with perception only through the medium of images.

We now have before us Ward's conception of the
mental growth of the 'psychological individual'. It is explained by the plastic presentational continuum and selective attention. But the meaning of the continuum conception for concrete individual psychology has not yet been made explicit. In concrete psychology the problem of heredity must be faced. This leads us to the conception of the continuum as 'psychoplasm'.
CHAPTER IX
PSYCHOPLASM AND BIOPLASM

The Presentational Continuum as Psychoplasm

1. Genetic psychology, developed in outline, presents what Ward considers to be a schema or outline of growing experience. By avoiding the problem of heredity it makes clear the outlines of the general growth of experience. But in the psychology of the concrete individual this schema must find its justification. Each concrete individual, at whatever level his experience, should fit into the schema.\(^1\)

As Ward passes from the general outlines of his genetic psychology to the psychology of the concrete individual he changes his emphasis. Genetic psychology retains a certain analytic aspect.\(^2\) It is interested in the development of specific structures, e.g., the ideational continuum, and so isolates each of these for separate study. This is necessary to reveal the genetic development of each. But in the psychology of the concrete individual the important matter is the

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\(^1\)Ibid., p. 431.
\(^2\)Ibid., p. 408.
general synthesis, the organic whole. In this psychology of the organic whole Ward uses a new term for the presentational continuum. He terms it 'psychoplasm'. This term, he thinks, both emphasizes the continuum aspect of the sensory field, and also brings to light its close affinity with biological continuity. "As bioplasm, not a concourse of atoms, is for the present the limiting term for biology, so we may speak of psychoplasm, and not a 'manifold of sensations' or 'mind-stuff' as our present term in empirical psychology."  

The term 'psychoplasm' emphasizes the continuity of the individual's experience with his ancestors' experience -- at least in some form. This 'plasm' is what is given to the individual as the inheritance with which to begin his experience. It is his Anlage. It gives to the individual in condensed form the experience of all his ancestors. We shall explain this theory later. For the present it is important that we understand that for Ward this psychoplasm is the individual's presentational continuum which is already to some extent elaborated.

1Ibid., pp. 409-410.
2Ibid., p. 412.
3Ibid., pp. 437-439.
That means that the individual does not begin his experience with an undifferentiated continuum. He begins with a continuum in which both differentiation and integration have been wrought. This is the "psychoplasma" which is given to the individual to be farther elaborated. "We might then conclude a priori that all that can be said to be psychologically -- as distinct from physiologically and sociologically -- heritable is merely the psychoplasma that the subject elaborates not the 'psyche' or subject itself."\(^2\)

This psychoplasma or peculium of which the subject obtains possession is only a sensory plasm. It is not a memory thread or ideational tissue. These are elaborated out of the 'psychoplasma'. So much seems clear from Ward's general discussion. However this is not affirmed, and the omission has made the conception of 'psychoplasma' very obscure. Professor Hicks has assumed that Ward considers that the individual inherits images and concepts.\(^3\) Professor Hicks's interpretation seems to be refuted, however, by the fact that Ward considers that children have no intellectation proper.\(^4\) Even the ideational continuum

\(^1\)Ibid., p. 436.
\(^2\)Ibid., p. 435.
\(^3\)Mind, N. S., 30(1931), 33.
\(^4\)Psychological Principles, p. 413.
is not developed. The 'psychoplasm' of which the human subject obtains possession is elaborated to such an extent that the development of the secondary continua and intellect is hastened, so that in a short time the human child develops what it took the race ages to accomplish. The details of this concrete development Ward does not explicate. *Suo* more, he only deals with the principles involved in his theory. "I never contemplated more than an exposition of psychology as a whole: merely subsidiary details, however interesting, were beyond my purview."¹

The Relation of Psychoplasm and Bioplasm

2. "The main fact well-ascertained by the biologist -- and indeed known to everybody -- is the resemblance, due to continuity and propinquity, between the organisms of parents and those of their offspring -- a resemblance tempered always, it must be remembered, by more or less variation. A like resemblance and variation the comparative psychologist also finds on the mind side."² But this resemblance is not a matter of the living experient; it is the resemblance of the psychoplasm or objective side of

¹Ibid., p. viii.
²Ibid., p. 433.
experience. This is what the individual inherits.

Ward realizes that this theory necessitates the coordination of the notion of psychoplasm with that of bioplasm. The relation is not superficial. The solution he offers is a brilliant piece of biological speculation based in part upon his own careful studies in neurology.

Ward makes habit the key to heredity. "In short, what habit is for the individual life that is heredity for racial life."¹ He espouses the mnemonic theory of heredity only to transform it. Now habit, as Ward understands it, is not a mere physiological concept. Habit can be understood only from the standpoint of psychology. It is action which has been subjectively inaugurated, and then because of sufficient repetition has become automatic. It must be remembered, however, that "the repetitions that will suffice to make 'use a second nature' or a habit automatic for a lifetime are very far from sufficing to ensure heredity for future generations. Yet unless the facility and familiarity acquired in a single lifetime are transmitted in some -- it may be, almost infinitesimal -- degree, there could obviously never be any transmission at all."²

¹Heredity and Memory, p. 53.
²Psychological Principles, p. 427.
The psychoplasm that the subject obtains is a plasm that has been organized in part by the habits of his ancestors. It is clear then that Ward does not separate organic life from psychical life. "We find then no ground for separating organic life from psychical life: for us all life is experience. We cannot therefore assume that experience has no part in the building up of the organism, and only begins when a viable organism is already there. For us, ontogeny and heredity are aspects of a single process -- a process that only experience will explain."\(^1\) The clue to this conception lies in Ward's theory of the nature of the living organism. For him it is a functional unity of living selves. There is sympathetic rapport between them. This is their functional unity. The biologist treats the germ plasm as an external object. The psychologist furnishes a new point of view when he suggests that the germ plasm is a functionally united colony of psychoids.

"But what exactly is this continuity between body and germ, and how are new acquisitions passed on? The continuity is what it always was, the continuity of membership in a commonwealth where the whole is for the parts and the parts for the whole; where all are

\(^1\)Heredity and Memory, p. 50.
more or less en rapport. The key to all this is to be found, I believe, in social intercourse, not in physical transmission."\(^1\) If there is rapport between the parts which functionally work together as a whole, then it is conceivable that the germ plasm as a part of the organism is influenced by the habits of the organism as a whole. \(\ldots\) The facility and familiarity acquired in a single lifetime are transmitted in some — it may be, almost infinitesimal — degree... \(\ldots\) Still the point is that ages may elapse before the effect is perceptible. And meanwhile in consequence of environmental changes it may gradually disappear; or again, it may be neutralised by the amphimixis or blending of bi-parental characteristics; or it may become latent — as in what is called atavism — for one or more generations. Transmissibility, rather than actual transmission, is, then, the meaning of the so-called 'law of heredity'.\(^2\)

This is the manner in which Ward considers that the individual comes to have his peculiarly developed psychoplasm. The germ plasm has been influenced by ancestral habits. This germ plasm as his totum objectivum or immediate object is his psychoplasm.

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\(^1\)Ibid., p. 54.

\(^2\)Psychological Principles, p. 437.
Presentation as a Relation of Subjects

3. We now face the problem of more directly relating the physiological and psychological conceptions. This is a problem that transcends psychology; but as Ward's solution of it throws light upon his conception of experience, it is valuable for our analysis of the continuum conception.

Ward's anthropomorphism is the most basic clue to his psychology and philosophy. The relation of the subject to presentations is the basic principle both of psychology and of epistemology. "... There is fundamentally only one standpoint — that of the subjective factor to the objective factor, which is immediately perceived in the one [in perception] and mediately conceived in the other [in mechanical theory]."¹ In perception there is an immediate awareness of the presented object as there.² In the higher levels of knowledge there is an apprehension of the object in terms of the activity of the interpretation of the percept. This interpretation is possible because the active subject is organizing the presentations furnished by the ideational tissue.³

²Mind, N. S., 38(1919), 259.
³Psychological Principles, pp. 301,302.
"As regards the real categories, it may be said generally that these owe their origin in large measure to the anthropomorphic or mythical tendencies of human thought -- τὸ ὑμίον τὸ ὑμῶ ἐγίνοσκεθαί."¹ All knowledge is thus of the form of subject knowing object.

Now in the mechanical and other phenomenal sciences, the perceived object is treated -- abstractly so Ward thinks -- as if it were not any subject's object, i.e., as if it existed not as a presentation but as a thing per se.² Also in being interpreted, substantiality is attributed to it in an abstract form without consideration being taken of the necessity of seeking its full meaning. In short, substantiality is not criticized but is the substantiality of unreflective perception.³ Abstraction from the full implication of the knowing process makes this possible.

Ward recognizes that there is an epistemologically objective factor in knowledge which psychology does not consider. Psychology is interested in the presentation qua presentation to a subject, which relation must not be denied even by epistemology. But

¹Ibid., p. 334.
²Naturalism and Agnosticism, pp. 470-473.
³Ibid., pp. 480, 481.
epistemology considers knowledge as revealing the real world at the transsubjective level. It is interested in presentations as revelations of the world of nature and history, "the world that each one comes to know and distinguish from himself and his psychical organism, only after attaining the transsubjective level."\(^1\) Psychology recognizes that there is such a factor, but it is interested in it as presentational and not as a revelation of transsubjective meaning.

A theory of reality must be constructed in the light of psychological truth. It must, however, take its standpoint of interpretation at the transsubjective level. Otherwise no world, as world, could be considered. Psychologically, the world is only a presentation; "die Welt ist meine Vorstellung."

Ward considers that the facts furnished by psychology show that there must be an anthropomorphic interpretation of the world. "At the outset, this world immediately confronts us not as one Mind, nor even as the manifestation of one, but as an objective whole in which we discern many minds in mutual interaction. It is from this pluralistic standpoint that our experience

\(^1\)Psychological Principles, p. 417.
has in fact developed, and it is here that we acquire the ideas that eventually lead us beyond it."\(^1\) Ward's ultimate metaphysics is in the end theistic; but this ideal is grounded in anthropomorphism. God is a self. Ward considers that the simplest hypothesis is that the world of nature is entirely composed of subjects, although some of them are of such an elemental order of reaction that we attribute thinghood to them without discerning the subjective reaction on their part. However, the principle of continuity as a sound principle of method would indicate that the range of animation should not be limited without evidence to the contrary.\(^2\) This then is the justification of conception of the body as a society of psychoids or psychological subjects functionally operating together.

Now presentation upon this theory is the relation of subjects to each other. Since Ward, under Reid's influence, rejects the theory of 'subjective states' the only hypothesis left to him is to assume that presentations are the relation of the subjects which make up the sensory experience of the perceiving subject. "... Presentation is a relation among monads

\(^1\)The Realm of Ends, p. v.

\(^2\)Ibid., pp. 60-64.
not a subjective state in a single monad.\footnote{Ibid., p. 260.}

Presentation is the relation of subjects to a perceiving subject; just as attention is the relation of the perceiving subject to them. In the relation of presentation the subjects are presented to the attending subject as the 'other than he', i.e., objects. As presented to the subject, i.e. as sensations,\footnote{Ibid., p. 258.} they are phenomenal. They appear to the perceiving subject, but their meaning is not revealed to him unless he interprets their appearance to him in terms of his own activity. This is Ward's theory of phenomena and noumena. For him there is no break between the two, but the one only has complete meaning in the other. Subjects alone are real; but each subject is related to his world. This world is made up of subjects. But subjects as presented to a perceiving subject are external and as presentations, phenomenal.

A most obvious question now confronts us: how can this monadistic theory of presentations be reconciled with Ward's theory of the continuum. Ward's own answer to this question is that the monadistic theory is "... far beyond our psychological facts: it is a
speculative 'first chapter' in place of the psychological one, which we have had to admit to be lacking.  

The unity of presentations seems to be due to the fact that they are presentations of one attending subject. It is the dominant monad that makes possible the functional organization which makes up a human body or community of subjects. The theory of the continuum is the supreme expression of the fact that Ward is not a genuine monadologist. The functional unity of the society of selves is as central for him as the selves. Ward does not need to transcend the empirical level to find his pluralism transcended. The continuum theory is itself a refutation of extreme pluralism.

It is clear that at the human level the dominant monad is related immediately to the monads which make up the brain. It is to the monads or subjects which make up the brain that the human self attends. These are its presentations. If this is so, how does the human self know the self that dominates another body? This is possible because the subordinate monads minister in perfect functional unity to the dominant self. As instruments these subordinate

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1Psychological Principles, p. 413 (foot-note 1.)
2Realm of Ends, p. 196.
3Ibid., p. 257.
monads are so related to the dominant monad that the presentation that the dominant monad has reveals the world beyond the body, i.e., the functional organization of selves related to the dominant monad, as well as certain aspects of the body itself.¹ That is the reason that a single location in the presentational continuum reveals more than one meaning. The same object can have sound, smell, taste, color, and kinaesthetic tone. We are aware of our bodies; but they are diaphanous for us to whom they belong.

It is not clear how ideation is developed out of psychoplasm. Ward speaks of ideation and intellect forming an inner body for the self.² Assuredly this inner body is not formed of subordinate monads. Yet if it is not so composed, it is not clear how it could be developed. It seems that it could not be of monadic construction since Ward uses it as an argument for immortality.

With this exposition of the theory of psychoplasm we have carried the exposition of the continuum doctrine to its speculative ground. We now turn to an evaluation of the theory of the continuum. This evaluation may throw light upon the exposition itself.

¹Ibid., p. 463.
²Ibid., p. 400.
Our attempt will be to show the implications of Ward's monadic theory of the self. We shall not try to criticize the validity of this fundamental assumption. The evaluation will throw more light upon Ward's general theory if we attempt such a method of sympathetic interpretation.
V

"THE LABYRINTH OF THE CONTINUUM"

(AN EVALUATION)
Is Experience the Ultimate for Psychology?

1. Ward rejects the term 'mind' because of its association with the Cartesian occasionalism. On the other hand he accepts Berkeley's standpoint as the correct one for psychology. There is an ambiguity in this double position, possibly a very fundamental inconsistency. The difficulty lies at this point: Ward wishes to hold to a theory of knowledge as the relation of the knower and the known, yet he does not wish to recognize that such a relation constitutes a new significance for the object so apprehended. The object no longer remains as it was before it was related. It is an appearance to the subject, and hence as appearance is other than its own selfhood. Now this is as much as to acknowledge that the percept is other than the ontological object. Professor Hicks thinks that Ward is untrue to himself in allowing this tertium quid to assume a central role within a system.\(^1\) Be that as it may, it is central, and Ward's

\(^1\)Mind, N. S., 46(1931), 7-9.
entire psychology and philosophy are founded upon it.

Ward uses the term 'experience' to indicate that presentation and attention are relations of a subject to something other than he. But the presentation itself is not the datum. Attention itself in apprehension is creative. Ward acknowledges that in his theory of time. From the standpoint of his ontology, the relational theory is significant; but from the standpoint of immediate experience we deal with objects as standing between the subject and the things in themselves. This is a position that is identical with the position taken in the ninth edition of the *Encyclopaedia Britannica*. Ward's theory is a theory of the mind. It is interested in presentations as mental and not as physical objects.

It seems that Ward wishes to escape from a theory of eccentric projection. However, his original *Encyclopaedia* article escapes this theory by making the psychological problem one of the relation of the subject to its presentations. The ground of the presentations he leaves to ontology.¹ In the *Psychological Principles* he does the same thing. He leaves the problem of the continuum origins to ontology.²

²*Psychological Principles*, p. 412 (foot-note 1.)
Perhaps it may be thought that our theory of the mental object is the same as Ward's own avowed theory. It is true that most of the material of the Psychological Principles does conform to the view here developed as the true one for Ward's system; but the theory of psychoplasm does not conform to it. If we assume that the presentational continuum is inherited, we absolutely separate attention from the structure of the continuum. That means that presentations have an inherent structure apart from attention. Ward's theory of sense-data, developed after the Psychological Principles was written, also gives to the continuum characteristics separate from attention.\(^1\) The separation of the objects of experience from attention is a remainder from the presentationalism which Ward did so much to refute. If he had developed his psychology in terms of 'mind' instead of 'experience' he might have escaped more completely the dualism into which his theory falls. Let us now turn to the problem of the duality of experience.

Is the Subject-Object Relation Ultimate for Psychology?

3. Ward assumes that the presentation is partially independent. That is the reason that he feels as

\(^1\)Mind, N. S., 38(1919), 270-274.
sympathetic as he does with Herbart's theory. To Herbart's theory of the Vorstellung he adds the conception of function. The quasi-independent status of the presentation drove Ward ultimately into his theory of psychoplasm.

If the presentation is a mental object, the manner in which the subject apprehends its environment -- we now use ontological terms -- then the presentation has no independent status. It is an existence for the perceiving subject alone. It might be treated as if independent, but this would be a very abstract procedure. The relation of presentation cannot be easily analyzed from the relation of attention. Ward is correct in giving a certain vividness of intensity to the presentation, as well as attributing its order and time of appearance to conditions which the subject did not inaugurate. This is the validity in the theory of presentations.

It would seem that the truth which the doctrine of independence contains might be preserved as well by Ward's earlier theory of 'subjective modification'. However, such a term is very misleading. The presentation is not the modification of the subject. It is rather the form in which the subject apprehends its environment. Such modification, the modification
of the presentation, is not a modification of the subject. The presentation is the form in which the subject apprehends changes within the brain, that functionally united society of monads with which the subject is en rapport. In short, the presentation is the form in which the subject apprehends its environment. But the presentation is not the environment. A sensation is not a monad. In Ward's ontology the presentation is the joint product of several monads functioning together. From the psychological standpoint, the presentation is an apprehended content. It is a phenomenon. This seems to be the true meaning of Ward's theory of presentations.

The doctrine of psychoplasm can be reconstructed in terms of this less presentational aspect of Ward's theory. Properly speaking, the presentational continuum is not inherited. What is inherited is the subject's environment. In functional relation with this environment, the subject apprehends it. The form of this apprehension, or better the environment as perceived, is the presentational continuum. As we shall see later, it is the presentations which form a continuum. The continuum is the apprehended form of presentations. It is consistent with a monadology, because it is the form
of the appearance of the monads which compose a given
subject’s environment. The continuum is not a theory
of the essence of being; but a theory of one aspect of
function.

Even if we consider the presentation to be mental
we still have to consider the coordinate doctrine of
attention. In one sense Ward is correct in making
attention the correlative of presentation: percepts
are analytically distinct from the ground of attention.
Even if presentations are modifications of function,
they do not arise from the volitional or emotional
direction of the mind. For individual psychology it
is function as grounded in the selective activity of
the self which is fundamental. From this subjective
standpoint, presentations or sensations are not
strictly functional but are interruptions within the
functional order. There is thus a double relation:
the functional relation of attention, and the
modification of that attention which is not inaugurated
by the attention itself. In this sense there is a
duality within mind: the duality of attention and
presentations as modifications of attention. The
subject is the feeling and will as function. This
as modified by perceiving is the mind.
Is All Knowledge Anthropomorphic?

3. The percept is not the thing as it is in itself. The percept must be interpreted to reach the meaning of the real. This is Ward's theory. He holds to it throughout all his works. It is likewise consistent, and only consistent, with the view of presentations as appearance. This theory is hardly to be reconciled with the theory of psychoplasm. The reason we have seen. Phenomena can hardly be inherited.

Professor Dawes Hicks thinks that Ward's mistake lies in the assumption that the appearance is other than a dim outline of the real.¹ Ward thinks that the percept is always changed in order to gain a knowledge of the real. Professor Hicks's theory of perception makes the progress of knowledge one of increasing discrimination. The outlines of the apprehended real are gradually filled in. Ward, however, recognizes that progress in knowledge requires integration as well as differentiation. Operations upon the blind that have caused those who have never previously seen to have vision, have allowed a study of this synthesis. From this evidence it is evident that integration is necessary for unified perception.

¹Mind, N. S., 30(1931), 6,7.
If integration is necessary for perception, then it would seem that Ward is correct in making sensations phenomenal. If we know the real it is due to interpretation as well as mere differentiation or discrimination. Ward considers that the basis of this interpretation is the nature of the self which does the interpreting. The self is immanent in the activity of interpretation. The self integrates as well as differentiates because it is what it is, an active being. This activity is the ground of the integration. This is the reason that knowledge is anthropomorphic: the self discovers the world through its own activity. As it discovers the world, it also learns to know itself. Thus transsubjective knowledge develops with self-consciousness. This anthropomorphism is absolutely consistent with Ward's monadology.

Does Ward's theory that self-consciousness is a late development bring discontinuity into his psychology? Not if self-consciousness is clearly made continuous with less and less distinct self-consciousness. It would seem to be true that for Ward any interpretation, even the integration which makes possible perception, is in some sense knowledge of self. As Ward uses the term, however, it means
explicit knowledge of self as over against other objects. Of course, such knowledge is a growth. But some minute knowledge of self seems to be implied in any knowledge. Ward's theory of presentations leads him astray once more. Presentations are not distinct from attention. Attention is immanent in the presentations. Presentations cannot be separated from attention. Hence any awareness of the presentation is an awareness that involves recognition of attention. Attention finds itself in its own products. Ward sometimes makes his problem very difficult by attempting to reach the limiting factors of the psychical life. We shall treat of this difficulty later.

Granted that all knowledge is anthropomorphic and always involves some dim awareness of self, does it necessarily follow that all knowledge is fundamentally practical? Ward answers this question by showing the origins of thought. What he seems to mean is that knowledge cannot be understood without appreciating the purposes which underlie it. Attention is a functional unity. Cognition and volition are mutually involved in developed thought. Ward considers that the meaning of knowledge must be sought in the total psychosis of which the knowledge is a
part. Knowledge is a means to the attainment of the 'good'. Of course the validity of knowledge is cardinal to the attainment of the good. In this sense truth may be made a separate inquiry. The good is discovered through the truth. But truth is instrumental, in the concrete growth of mind, to the good. Knowledge can only lose its instrumental character if it is made itself the good. Ward considers this impossible because of the emotional and motor aspects of experience. Knowledge implies more than itself and cannot be made the complete good. The eudaemonistic ideal, the ideal of the whole person, is the only true good. To it knowledge is instrumental. In this sense all knowledge is practical. This type of anthropomorphism makes knowledge practical in a very wide sense. It seems a necessary aspect of Ward's theory of the nature of the growth of knowledge. It is implied in his anthropomorphism.
CHAPTER XI
CONTINUUM OR MANIFOLD?

Are Sensations Extended?

1. Ward confesses that he was long in doubt about the problem of extensity. He finally decided for it because he considered that without it there could be no differentiation. This is strange considering that he subscribes to Kant's dynamic theory of matter. Apparently extensity is a functional creation. Yet Ward treats it as if it were the characteristic of a structure which is distinct from the function that acts upon it. The theory of psychoplasma is the extreme form of this theory of structure.

If it be true that there is a psychoplasma, then the assumption of extensity would be a valid one. But we have seen reasons for doubting this theory. Presentations are not substances; they are modifications of function. If so, then there may be differentiation without extensity. Differentiation is due to the power of discrimination. Synthesis is the functional unity which may follow this discrimination. Still Ward might contend that this would not account for the extensive aspect of space.
James, Külpe, Stout, and Stumpf consider that sensations have extensity. Their argument for extensity is identical with that of Ward: the perception of space is impossible without an underived extensity which belongs to each sensation. Ward is in good psychological company when he espouses this view. But this doctrine leads him into peculiar difficulties. Ward did not see how the perception of space was possible without a genuine field of continuous sensations. Merely compresent sensations would not furnish the extensity which characterizes space-perception. Since Ward is in scientific theory a monadologist, this extensity must be phenomenal. It seems that his position is more nearly related to Kant's than would appear at first sight. What he wishes to deny is the manifold of sensations which the mind gives a spatial form by its own activity. In his sharp distinction between presentation and attention, he attributes more to the presentation than Kant does to the sensation. The essence of his view seems to be: the sensation has no existence in which it is not a presentation.

If we consider this fundamental aspect of Ward's theory in the light of the general theory of presentations which we have developed as Ward's truest
theory, i.e., the theory that sensations are mental, we shall find that the meaning of Ward's view of extensity is very significant. Ward considers that more than the qualitative aspects of space-perception are non-relational, i.e., not a synthesis of parts. For Ward's psychology there is no stimulus which precedes the presentation. Viewed in this light, his doctrine is not unlike Lotze's. Sensory presentations always have a characteristic by which they are located within a whole which is the totality of sensory intuition. Ward's theory is essentially Kantian. The extensity is due to the appearance of reality to mind. Of course Ward's theory does not make a sharp separation between appearance and reality. Reality is immanent in perception. But Ward holds firmly to the Kantian theory that percepts are appearance to mind. When this is clear the fact that he considers sensations extensive loses its fearfulness. The essential difference between Ward and Kant in this respect lies in the difference of source from which extensity arises. For Kant it is a form given to sensations by the mind. For Ward, at least in his earlier writings, it is the characteristic of sensations because they are given to mind as a modification of mind. Sensations and hence sensory
characteristics are the result of two or more subjects functioning together.

Ward's doctrine of an extended plasm seems untrue to the essence of his monadology. But the refutation of the theory of a sensory manifold which precedes perception is sound. The theory of the plasm we reject; the refutation of the manifold seems a fundamental contribution to psychological theory.

Is the Principle of Continuity Valid?

2. The principle of continuity seems to be the one speculative principle in Ward's general method. Considering that it is speculative, it is surprising that he never made a more thorough exposition of its significance and status for his system.

However, it may be that Ward intended that the meaning of the principle of continuity should be: it is sound method to proceed without break unless there is empirical evidence to the contrary. There are many passages which have this coloring. But Ward often tends to give the principle more than a methodological meaning. That is because a methodological principle always has its influence upon the science in which it is used.

Ward seems correct when he considers that without
this principle it would be difficult to extend the bounds of science. It is a valuable methodological principle provided it means that we must move without break from the known to the unknown, learning the unknown in terms of the known. But its application is a difficult one.

Ward's most striking use of the principle of continuity is in application to the conception of the psychological individual. This is not only its most striking use, but in connection with Ward's Lamarckianism, its most dubious use. Granted that the functional activity of the dominant monad may modify the structure of the brain by sympathetic rapport, it is not necessary upon Ward's theory that this direct modification be inherited. The process might be more indirect, and yet carry out his theory of continuity.

If advancing experience does influence -- as Ward thinks it does -- success in obtaining food, the method of struggle, and geographical distribution, then mating is indirectly influenced by experience. If so, there is ground for the experiential modification of creative advance, apart from the direct inheritance of acquired characteristics. We only point this out as an alternative hypothesis,
which is consistent with Ward's general conception of experience. As to its biological validity we can not decide.

Would such a change in Ward's theory make genetic explanation impossible? This is an important question, since Ward's psychological theory is an attempt to present *The Origin of the Species* psychologically, tracing the steps of the development of experience from its most remote beginnings to the level of man. This brings to our attention an important point which Ward does not consider in connection with his general theory. Inheritance consists in a synthesis of two plasms. With Ward's stress upon epigenesis he should stress this aspect of synthesis. It is more important than the inheritance of acquired characteristics.

Such an emendation of Ward's theory would not seem to do violence to his central thesis. The continuity is not so obvious, but the advance remains upon the level upon which it formerly rested, except that it is by means of a peculiar type of synthesis which involves both receptive and motor features. Like much of highly specialized experience, the synthesis which makes possible heredity is specialized. It seems that the change most needed in Ward's general
psychology to make possible this type of explanation is a fuller development of the conception of the Anlage and general sex experience.

Considered in this light, the principle of correspondence has distinct value. Of course, it can be unduly stressed. Ward himself recognizes that structure lags behind function. But the obvious success of methodological psycho-physical parallelism in laboratory practice seems to indicate that correspondence has some general validity. Its value for Ward lies in the fact that it indicates that growth is from the simple to the complex. That leads us to the application of the principle of continuity to the relation of sensations. Do sensations form a continuum?

Do Sensations Form a Continuum?

3. If we avoid the term extensity, since it is connected with the conception of psychoplasm, our question presents itself in this form: is there in perception a gradual advance in the discrimination of local signs? One of Ward's most signal contributions to psychology seems to be the stress he places upon the relation of the continua of sensations to the problem of perception. These sensory continua are
explanatory, but do not as continua form parts of consciousness. It is the whole field of consciousness which determines the number of different sensations that may be perceived at one moment. The sensory continua explain the relation of members of the same qualitative group of sensations to any one local sign. This theory of the incopresentability of members of the same sensory continuum is a very strong aspect of Ward's continuum theory.

If we grant this much of Ward's theory, we can easily see that the differentiation of qualities is closely connected with discrimination of local signs. Ward does not consider the local signs a priori; they are distinctions or discriminations in tactual sensations. That the concrete individual always has a certain amount of such discrimination Ward would grant. He only contends that discrimination becomes greater with the advance of experience. The experiments carried out by Dr. Rivers and Dr. Head in nerve division seem to confirm Ward's view of the genesis of local signs from an originally but partially differentiated tactual sensory field.\(^1\)

It must be remembered that this gradual differentiation depends upon the structure of that organization of

\(^1\)Brain, 31(1908), 333-450.
monads called the nervous system. If this theory of
dependence is correct, then the development from
simple to complex discrimination of local signs seems
to be correct. The general principle of 'correspon-
dence' seems to indicate the general validity of Ward's
theory of development.

Assuming that all sensations are located by the
general tactual field, does it necessarily follow that
the sensory field is a continuum? From the genetic
point of view it does seem clear that the continuum is
the limiting conception from which we must proceed in
explanation of development. In the case of analytic
psychology the continuum conception is not quite so
clear. However Ward's illustration of the body
submerged in a warm bath indicates the type of continuity
that still underlies our advanced and complex sensory
localization.\(^1\) In so far as the continuum of local
signs controls the whole orientation of other sensations,
we might well say that the sensory field is a highly
differentiated continuum. From the epistemological
point of view this is a phenomenal field. Psychologi-
cally it is at a certain level of experience the
individual's world. As Leibniz says -- speaking from
the epistemological point of view -- "He who sees all

\(^1\)Psychological Principles, pp. 78, 79.
could read in each what is happening everywhere."¹
But for the individual at the sense level subject and object are the universe, the object or whole of presentations is his world. This latter point of view is a psychological one. Presentations are the world.

Ward's theory of the continuum is a valuable contribution to the theory of mental growth. It is particularly illuminating in reference to the conception of local signs. We shall now turn to the problem of its relation to ideation and intellection.

¹Monadology, section 61.
CHAPTER XII
GENESIS OR FACULTIES?

Is Ideation Evolved from Presentations?

1. We found in our exposition of Ward's genetic theory that the continuum can never be considered as absolutely undifferentiated. The undifferentiated continuum is a limit which is never reached. Ward begins his exposition with the assumption that empirical psychology cannot deal with experience which does not involve at least a slight differentiation between perceptual objects in general and motor objects which stand in contrast to them. That Ward makes this assumption is indicated by the fact that he begins his genetic account with experience so far elaborated. Although he postulates the bare monad and considers that the bare monad's continuum is undifferentiated,¹ yet he does not begin with the undifferentiated sensory field.

It seems that assimilation is really a kind of recognition. Ward does not explain how assimilation arises. That is a part of the plasticity of the

¹Contemporary British Philosophy, p. 45.
presentational continuum. Ward recognizes that there is no level of experience with which empirical psychology deals which does not exhibit some degree of assimilation. Thus recognition of some form is present in all experience with which empirical psychology deals. When this aspect of Ward's actual method is clear, we see that ideation is to some degree implicit in the presentational continuum. That is the reason that Ward acknowledges that all presentation involves re-presentation. As growth experience involves the re-presentation of the past. Memory and ideation are the development of this recognition aspect of experience into a body of separate presentations. This theory seems consistent with Ward's theory of development. But it conflicts with his theory of psychoplasm.

It is not clear how ideation can be elaborated from that plasm which is the brain monads presented directly to the perceiving self. However, if we are correct in our interpretation of the nature of the presentation as implied in Ward's monadistic position, then the presentational continuum is not composed of monads but is the manner in which the perceiving self apprehends its subordinates, the monads which compose the brain. Ideation, according to this theory, is
accordingly the elaboration and development of one aspect of perception. Assimilation was there even in the earlier stages. Ideation is the development by selection of this aspect of perception. In other words, ideation is a specialization of that which is present to some extent in all experience.

How such specialization is possible is much clearer upon the basis of Ward's early theory of mind than upon the basis of his later theory of experience. Strictly taken, his later theory would mean that the ideational continuum is a new organization of monads. Does that mean that new monads are developed or taken from the environment for that purpose? Ward seems to imply that the ideational continuum is not the functional relation of monads. His theory seems to be that it is mental in structure. Such a hypothesis is only possible upon a theory of presentations as mental. On the other hand it would be difficult to develop a theory of ideation as a relation of monads.

It is noteworthy that the ideational continuum is not differentiated so much as developed into a continuum. It is developed from that which is not a continuum, i.e., from a memory thread. Under such circumstances ideation is not a continuum in the same sense of the word as sense objects are. It would have been well if there had been some other term
with which to characterize ideation besides the term 'continuum'. It has, however, one advantage: it stresses the continuity involved in ideation. But it does not make clear the important aspect of Ward's theory: ideation is synthetic. The presentational continuum is a unity which is gradually differentiated; ideation is a development of one aspect of the presentational continuum into a new type of continuity. Hence ideation is not like the Leibnizian continuum which is divisible ad infinitum. It is a continuum, however, in the sense that it is not a manifold. This is indirectly indicated by the fact that time is an aspect of ideational experience.

Ward's stress upon ideation as a continuum which is very distinct from the presentational continuum makes it difficult for him to show the organic relation of perception and ideation. He does carefully trace the continuity; but he leaves the relation of perception and ideation — at the level when both are highly developed — unclear. If ideation were not considered as a highly discrete continuum, but rather as organic to perception, i.e., as a unique continuity which is developed out of and yet remains organic to perception, Ward's theory of ideation would not present a discontinuity between these two aspects of experience. His method is at
this point too analytic. The important thing is just this connection of perception and ideation. This is the very point which Ward does not explicitly develop. However, he does recognize the difficulty which we are now considering. But would there have been so sharp an antithesis if the method used had been different? What is important is not the difference between perception and ideation but their relation. Possibly Ward fails in his usual stress upon development to make explicit even to himself the whole which is being evolved.

Is Intellection Evolved from Ideation?

2. Ward uses the term 'logic' to denote the most abstract elements of knowledge. He considers that it deals only with the laws of synthesis. Thus logic like mathematics is absolutely certain knowledge. Its province is abstract universals. Of course knowledge is wider than the province of abstract universals. But for Ward thought-knowledge or intellection is only the knowledge of logic and mathematics. This knowledge is distinct from ideation. Concrete knowledge involves ideation. Although intellection is distinct from ideation, it is derived from ideation. Ward traces the steps of this
genesis with some care. This development makes possible the realization of such relations as are formally implied in all thought but are not made explicit until they are abstractly presented. This abstraction makes possible the control of ideation in terms of norms. This is concrete thinking. Such concrete thought obviously involves imagination.

Here again Ward is stressing analysis, but with more justification than in the case of the separation of perception and ideation. Ward is justified in this analysis just because logic and mathematics, in so far as they are formal, do stand in sharp opposition to concrete thought. Of course we are using the term 'logic' in Ward's sense. This leads us to a new point: are the forms of logic archetypal rather than constitutive?

Ward thinks that the forms of logic are derived from sense and ideational relations. Yet intellection is primarily archetypal. Ward's theory seems to be that the simplicity of the logical and mathematical forms is a created homogeneity. These forms are abstracted from sense and ideation and are creatively standardized. If this be true, then it is hard to see how the categories can be constitutive. Ward recognizes that they are specifications for
action. In this sense the categories are the norms of thought. But the categories are not the laws of actuality. Ward can hardly consistently maintain this position. He himself develops a theory of logic which involves the real and axiological categories. Of course these categories are not merely formal. It is the break between the different types of categories, which reveals the inadequacy of this theory of cognition.

Ward's theory of the application of the formal categories is not entirely clear. Although these categories are assumed to be archetypal rather than constitutive, yet in application to distinct individuals the categories of number are absolutely valid. The number of perceived individuals may be absolutely known. Many times Ward seems to mean that number cannot be applied as universally as is usually assumed. Even if this be granted, it is far from the position of archetypes. It is to be regretted that Ward did not make his epistemology clearer, especially as his theory of the application of mathematics to perception is vital to the understanding of his attacks upon naturalism. It may be that he outreached himself when he made physics into a merely statistical science. This would make explanatory physics impossible.
If our analysis has been correct, Ward's defect in method is too extreme a use of analysis. The organic synthesis which we meet in concrete experience is sometimes lost sight of. The discontinuity is not in the theory of perception. The continuum doctrine prevents that. But there is a discontinuity implied in the theory of psychoplasm, an extreme embodiment of the more radical theory of the separation of the self from presentations. Ward was influenced too much by the presentationalism which he was trying to refute. Thus, although he escaped a doctrine of a multitude of faculties, he developed a theory which separates the self from its experiences. Instead of several faculties, we have several types of presentations. These different types of presentations are never shown to be in organic unity. Thus, instead of faculties we have different genera of presentations. Ward's theory, like Aristotle's, is defective in its sharp separation of structure and function.

We have not essayed to criticize Ward's monadic theory of the self. This is the basic concept of Ward's system of psychology. Rather, we have attempted to interpret certain of his theories of presentations in the light of this basic concept.
This procedure has the advantage of developing the evaluation in terms of a more complete exposition of Ward's fundamental method. The concept of the monadic self is Ward's basic hypothesis. Our attempt has been to expound and criticize his psychological method in relation to this basic hypothesis. To evaluate the "Fons rerum substantiatoriae Monas" is beyond our purpose.
SUMMARY
SUMMARY

1. All of the important discussions of Ward's continuum have been critical rather than expository. Also none of them have traced the historical connections of the conception, nor have they considered Ward's theory of continuity in the light of his basic conception of knowledge. They disregard his anthropomorphic method.

2. The history of the continuum theory reveals Leibniz's conception as significant for the understanding of Ward. However, it is the law of continuity rather than the specific mathematical notion which Ward uses.

3. The first postulate of Ward's theory of knowledge is essentially anthropomorphic: that which psychology discovers to be the facts about knowledge epistemology must accept as true. Knowledge has two poles of certainty: sense-knowledge, the world as immediately apprehended by the experient; and thought-knowledge, the abstract knowledge of formal logic and mathematics. Pure thought-knowledge does not give us the interpretation of reality. This is only obtained through the interpretation of perception in terms of self-consciousness. Such a method of
interpretation is a progressive apprehension of the unknown in terms of the known. This is the principle of continuity as implied in Ward's anthropomorphic theory of knowledge.

4. The standpoint of psychology is individualistic. Ward's psychology, however, rejects the theory of subjective modifications which the individualistic standpoint of Berkeley involves. The standpoint of psychology compels recognition of the principle of continuity. Sheer discontinuity has no meaning from the standpoint of experience as individualistic. The embodiment of this type of explanation is the fiction of the psychological individual, an imaginary individual who has developed all the complexity of his experience in one unbroken life.

5. Along with the method of continuity Ward uses analysis to determine the essential factors of any experience whatsoever. These factors are subject and object. The objects of experience are presentations by virtue of the fact that they are presented to a subject; the subject of experience is the subject because presentations are given to it. The subject is a functional unity which attends to presented objects. Presentations are the structure which the functional subject mold.
6. Sensations form several classes, e.g., colors, sounds, tastes, etc. If the qualities of any one of these classes are presented in a graduated series -- much as Hume suggests in A Treatise of Human Nature¹ -- it will be found that they form a continuum. The continuum of tactual sensations is unique in so far as all of its members are presented together. It is noteworthy that only one member of the same continuum of sensations can be associated with the same place at the same time. It is the tactual continuum which marks the locality of other sensations. All sensations have extensity and for this reason at any one moment all composite sensations are mutually exclusive, but are parts of one extensive continuum. The law of continuity permits the recognition of no breaks within this continuous field. In some of his earlier writings Ward ascribes protensity or duration to this sensory continuum of all our sensations. In his later writings protensity is made the characteristic of attention rather than of the continuum itself. Thus the presentational continuum is the extensive field of all composite sensations.

7. In our own immediate experience we have evidence of advance from the less complex to the more

¹Book i, part i, section 1.
complex. Attention differentiates and integrates the presentational continuum. It is noticeable that there is a correspondence between the growth of mind and that of body. Ward uses this parallelism as a clue to the general form of all racial developments of experience. The principle of 'correspondence' together with the law of continuity leads Ward to assume that heterogeneity has developed from homogeneity. The undifferentiated presentational continuum is the limiting term of genetic explanation. The term 'presentational continuum' is sometimes used to denote this genetic limit; it is sometimes used in the more general sense of the whole extensive continuity of sensations which is immediately apprehended as objective. In both cases there is no assignable limit to the continuum.

8. Genetic psychology must explain the development of the higher forms of experience from the homogeneous sensory continuum which the conative subject acts upon by means of attention. First the active and receptive sensory objects become distinct. The active presentations are stresses and tensions whose extensive characteristic is almost nothing. Voluntary attention elaborates these presentations into a continuum.
Due to the specialization of selective attention a distinct continuum is gradually developed which is composed of the reproductive aspects of the presentational continuum. At first there is only a memory thread, not a continuum proper. Gradually, through selective control, the thread is developed into an ideational continuum. The flexibility of this continuum makes possible the manipulation of ideas in terms of a selectively inaugurated order. The highest form of this control, found in thought-knowledge, is intellection.

9. In order to account for the complexity of the presentational continuum with which the experient begins, and also provide for the continuity indicated by the hypothesis of the psychological individual, Ward elaborates the theory of psychoplasm, the plasm which the experient receives from his ancestors as a structure already elaborated. This plasm makes possible the use of the material of general psychology in the psychology of the concrete individual. It is the immediate object of the experient. In highly developed experience this plasm is what the physiologist from his external standpoint terms the brain. In Ward's panpsychism psychoplasm is a functionally united group of subjects in relation to the perceiving
subject or self. Hence presentation is a relation of subjects.

10. Ward's earlier theory of presentations as mental seems to be more consistent with his theory of materia secunda than the later doctrine of psychoplasma. Psychoplasma as a structure distinct from the perceiving experient can hardly be an 'appearance' to the perceiving self.

11. Ward's theory of the presentational continuum as extensive is consistent so long as the continuum is considered to be phenomenal. It presents difficulties when interpreted by means of the theory of psychoplasma. The continuum theory is too rigidly interpreted by the principle of continuity. Continuity might be more indirectly found and yet be valid. Ward's central thesis of progressive discrimination and mental growth is, however, consistent with his general theory.

12. The genesis of ideation is particularly obscure when viewed in the light of the theory of psychoplasma: how can imagination be developed out of a plasm of related monads. But if perceptions are mental and involve re-presentation, the genesis of ideation is not so obscure. Ward also severs thought-knowledge too sharply from perception and ideation. This itself is a violation of organic continuity.
13. The dissertation attempts to point out three cardinal aspects of Ward's continuum theory which have not been previously developed.

1. Ward's doctrine of the continuum is related to the principle of continuity as found developed in mathematical physics. It is also related to Ward's own conception of the principle of continuity: knowledge develops continuously from the more known to the less known.

ii. Ward's genetic psychology retains the analytic standpoint which it receives from the primary analysis with which it begins. But his psychology of the concrete individual adopts an organic standpoint. These two points of view are not consistently correlated. This confusion of standpoints leaves the status of the continuum indefinite.

iii. Ward's theory of the continuum as the organic relation of subjects is not developed consistently. Both the sharp separation of the subject from the presentational continuum, and the theory of psychoplasm are inconsistent with this relational theory. Only a modified form of his theory of presentations as mental makes his theory of organic relations tenable.
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SUPPLEMENT

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Number "5" is an unsigned review.
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Number "12" was privately printed, and is not referred to as printed.
Numbers "1" and "3" are contained in inaccessible foreign publications, and are not referred to by Ward or in the general literature about Ward.

Numbers "6", "8", and "11" are contained in an educational journal. Ward gives no indication elsewhere that he has written on educational problems.

Numbers "4", "8", "10", "13", "14", and "15" are accessible; but there is no reference to them in Ward's major works, or in the literature on Ward.

CRITICAL NOTE

The following omissions and errors have been made in the list of Ward's writings furnished by The Monist.

The articles "Symposium: Purpose and Mechanism," and "A Theistic Monadism." are omitted.

The article "Mr. F. H. Bradley's Analysis of Mind" is cited as contained in Mind, O. S., 7, instead of Mind, O. S., 13.

The article "Observations of the Physiology of the Nervous System of the Crayfish" is incorrectly given as "Observations of the Physiology of the Nervous System of the Crawfish".

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AUTobiography
AUTOBIOGRAPHY

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