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subsequent psychological thought*

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AN ABSTRACT

- I. The purpose of this study has been to investigate as fully as possible the background and the developments of the hormic theory and its effective influence upon present-day psychology.

- II. Historically, the hormic principle is traceable back to Plato and mainly to Aristotle. Philosophically, its roots cannot be isolated from Hobbes's and Locke's principle of Empirical Associationism, a principle based largely upon the premise that there are psychological laws which describe what man would think, what he could know, and what he might do. Such a trend of thinking was to some extent confounded with Descartes' mechanism which later McDougall decried on the ground that it does not account for the individual's free will.

- III. With the advent of Darwin's theory of evolution (1859) the climate of thought in Britain was propitious for the new outlook and Psychology in particular profited tremendously from its novel interpretations. Seizing upon new concepts implied in the evolutionary creed, McDougall

efficiently introduced the hormically, motivational Psychology.

IV. Unlike the mechanistic contentions, the dynamic hormic theory emphasises the nature of the organism's behaviour; i.e. nature endows the individual with a remarkable constitution which purposively produces or attempts to produce the right kind of behaviour and the appropriate type of mental attitude. Motivation therefore emerges from within and brain is the source of the intellect, of thinking, of ideas as well as it is the organ of motivation. Ethological and biological observations as well as modern Psychological techniques have favourably endorsed McDougall's hormic position.

V. What gives the hormic theory supremacy over the rival ones is that it maintains a kaleidoscopic, voluntary explanation of behaviour and retains in its philosophy spirituality, rationality and the purposefulness of life. It has been found, besides other major characteristics, that in its present implications and psychological applications, the hormic theory has now experimental support, is viable and highly influential.

MCDUGALL'S HORMIC THEORY AND ITS INFLUENCE
ON SUBSEQUENT PSYCHOLOGICAL THOUGHT

A.A. Jusmani.

Ph.D. THESIS

SUBMITTED

IN

THE UNIVERSITY OF DURHAM

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PART I.

THE CLIMATE OF

THOUGHT IN

BRITAIN'S XVIIITH. CENTURY AND AFTER

CHAPTER I

BEGINNINGS OF EMPIRICAL PSYCHOLOGY

1. The Classical Empiricism (Associationism).

"The hormic theory of action," says McDougall, "is
(1)
not a new theory, but a very old one". With that
statement as a starting point, certain questions may now be
raised: how to proceed on some distinctive line of
investigation, what new ground of knowledge has thus far been
organised into an exclusive system, what is the nature of the
background from which hormic psychology arose, the impact of
hormic psychology upon recent psychological studies, and so
forth. The answers to such questions might be divergent, but
they might equally be interesting and valuable. It is,
therefore, with these and some other questions that the
following chapters of the present investigation must be
occupied.

It was by no sheer accident that Britain has become
gradually the home of orthodox psychological thought. "The

(1) An outline of Psychology, London, Methuen, (1923),
p. 218; see also :

An Introduction to Social Psychology, London, Methuen,
25th ed., (1943), 1st published (1908); pp. 458 ff.

Sceptre of psychology," to use J.S. Mill's own observation, "has decidedly returned to England".⁽²⁾ In point of fact, this has been so ever since the time of Hobbes and Locke when England became "the country which has done the most for psychology".⁽³⁾ At the time two currents of psychological doctrines were produced in Britain: The "A priori" school,⁽⁴⁾ which may also be termed the deductive; this school took abstract notions as clues to the consequences. It reasoned from causes to effects. Prominent among its members were Sir William Hamilton (1788-1856), William Whewell (1794-1866), James F. Ferrier (1808-1864) and Henry L. Mansel (1820-1871).

(2) Quoted by Th. Ribot: English Psychology, (1889), p.44.

(3) ibid, English translation, London, Kegan Paul, (1889), p.33. see also :

Hearnshaw, L.S., A Short History of British Psychology, London, Methuen (1964), preface, p.VI.

(4) Ribot, Th., op.cit., pp.33-34 ; see also :

(1) Metz, Rudolph, A Hundred Years of British Philosophy, English translation, London, George Allen, (1938), pp.34 ff, 246-7 ;

(11) Warren, Howard C., A History of the Association Psychology, New York, Charles Scribner's sons, (1921), pp.33 ff.

(111) Brett's History of Psychology, 3 vols., abridged and ed. by R.S. Peters, London, George Allen, (1953), pp. 36 ff.

(1v) Lewes, George Henry, The Biographical History of Philosophy, London, John W. Parker, (1857), pp.419-20;

(v) _____ The History of Philosophy, 2 vols. London, Longman's (1880), vol II, pp.417 ff.

The other one is the "A posteriori"⁽⁵⁾ school, which may be called the inductive; contrary to the former one, this school was characterized by reasoning from effects to causes. It began with Hobbes, if not earlier, and numbers among its distinguished adherents, James Mill (1773-1836), John Stuart Mill (1806-1873), Samuel Bailey (1791-1863), Herbert Spencer (1820-1903), Alexander Bain (1818-1903), George Henry Lewes (1817-1878) and others.*

Before any conclusions could be drawn in relation to the divergent or convergent ideas maintained by the two schools, it may be convenient to survey briefly some of their exponents' views. A thorough study of English contemporary psychology would necessarily include both these schools.

Psychology is no exception to F.V. Smith's observation that, "In the various sciences there have from time to time been changes in the types of explanation which are acceptable".⁽⁶⁾

(5) Ribot, Th. op.cit., pp. 33-34.

* See, for example, Sir. H. Holland, Dr. Noble, Dunn, Morell, Maudsley, Murphy, etc.

(6) F.V. Smith, Explanation of Human Behaviour, London Constable and Co., 2nd ed. (1960), 1st publ. 1951, p.3.

This is so owing to the endless corrections and modifications to which psychology has been subjected during and since its emancipation from philosophy. Thomas Hobbes (1588-1679), for instance, began a new epoch in the development of the doctrine. He has been proclaimed "the father of empirical psychology".⁽⁷⁾ The facts which seemed to justify the claim were the treatment of the association of ideas. It is true that the roots of association psychology can be taken back to Aristotle. Yet,⁽⁸⁾ it is Hobbes's psychology which is noteworthy as an initial

(7) (1) Brett's History of Psychology, op.cit., p.368, see also :

(11) Harold Hoffding, A History of Modern Philosophy, English trans., 2 vols, London, Macmillan and Co. (1900), reprinted (1908) Ch.IV, Vol 1, pp 259-291.

(111) W.R. Sorley, A History of English Philosophy, Cambridge University Press, (1920), Chapter IV.

(8) See:

(1) H.C. Warren, op.cit. pp. 33-34.

(11) Frank Thilly, A History of Philosophy, N.Y., Henry Holt and Co., (1914), last publi. 1931, pp. 263-272.

(111) Mandler, J.M. and Mandler, G., Thinking : From Association to Gestalt., New York, John Wiley, (1964), pp. 9-15, 15-25.

attempt, (1) to establish the relation between different sorts of mental states on what is today called a psycho-physical basis; and (2) to trace all mental content ultimately to sense experience, eliminating the old notion of innate ideas.

Aristotle's work was mainly by way of enumeration and classification. He applies the laws of associative connection, which he discovered, to but one class of experiences - memory.

"And neither the later Greeks nor the Schoolmen, neither Augustine nor Descartes, despite their independent analyses", writes Warren, "advanced perceptibly beyond his position".⁽⁹⁾

Only by implication, according to Aristotle, are the laws of associative connection extended to the relations between memory, sensation, and the other mental processes. Hence Hobbes broke with the Greek philosophy which he designated as "phantasm",⁽¹⁰⁾ and saw that "a man can have no thought respecting anything not subject to sense".⁽¹¹⁾ Like Bacon, he accentuated the practical

(9) op.cit., p.33 ; see also : pp. 23-32.

(10) Thilly, op.cit., p.263.

(11) G.H. Lewes, The Biographical History of Philosophy op.cit,
p. 424.

See also : his : The History of Philosophy, op.cit. p.417.

utility of science or philosophy.⁽¹²⁾ As G.H. Lewes has judged, it was Hobbes and Locke, who were the precursors of that school of psychology which flourished in the eighteenth century, and which made every operation of the mind proceed out of "transformed sensations", which ended in saying to "think" is to "feel".⁽¹³⁾ The British thinkers who followed Hobbes developed their systems of psychology along the lines that he marked out; his historical value to associationism, therefore, lies not so much in his own contributions to the doctrine, as in the fact that he established the type of psychology out of which associationism naturally and logically developed.⁽¹⁴⁾

(12) Thilly, op.cit. p.264, see also : F.A. Lange, The History of Materialism, English trans, London, Kegan Paul, (1925), pp. 269-290.

(13) G.H. Lewes, Biographical History of Philosophy, op.cit., pp. 419-20.

See also : The History of philosophy, op.cit. p.229.

(14) See (i) Warren, op.cit. pp.33-34.

(ii) John Passmore, A Hundred Years of Philosophy, London, Gerald Duckworth, (1957), p.124.

Hobbes's psychology is found in his two principal works, "Human Nature" (1650), and "Leviathan" (1651). He was chiefly concerned in showing that the "cognitive powers"⁽¹⁵⁾ of the mind deal only with material provided by the senses. Imagination is any conception remaining and gradually decaying from the act of senses. The strongest and clearest of these images are found in dreams and in visual after-images.⁽¹⁶⁾ Hobbes pointed out, among other psychological topics, two trains of thought: the inconstant or, as he calls it "unguided, without design", wherein there is no passionate thought. The second class he calls "regulated" by some desire and design. "Imagination", "imagery", "memory", "rememberance", "perception", "foresight", "desire" and other terms are present in Hobbes's two theses throughout.

(15) Hobbes, Thomas, Leviathan, edited with an introduction by Michael Oakeshott, Oxford, Basil Blackwell, (1946), chapters 2 and 3, pp. 8-17.

(16) ibid, see also :

(1) Hobbes's Human Nature, in British Moralists, ed. by L.A. Selby-Bigge, vol. 2, Oxford, (1897);

(11)Heidbreder, Edna, Seven Psychologies, New York, Appleton - Century, (1935), 1st published (1931), pp. 38-39.

Such terms, as is well known, loom large in today's psychological discussions. Hobbes, being a critic of Descartes,⁽¹⁷⁾ views and impressed by Galileo,⁽¹⁸⁾ has at least made two contributions that might be of significant interest to psychology; (1) The notion of "the rational man" : the notion that human conduct is dominated by reason; and (2) That his psychology is indicative of new paths: one of these is the general treatment of psychological processes which lands them clearly in the stream of natural events. Yet, his psychology, however, is described as "materialistic", "mechanistic" and "deterministic", throughout.⁽¹⁹⁾

Credit must go to John Locke (1632-1704) for

(17) Heidebreder, Seven Psychologies, op.cit., p.38

(18) (1) ibid, p.40.

(11) Mandler, J.M. and Mandler, G. Thinking, op.cit., pp. 15-25.

(19) ibid, pp. 39, 40, see also :

Lange, The History of Materialism, op.cit., pp. 297, 300, 354.

introducing the phrase "association of ideas".⁽²⁰⁾ By "idea"⁽²¹⁾ he meant "the object of the mind when it thinks".⁽²²⁾ The question is what was "the founder of Modern Psychology"⁽²³⁾ endeavouring to do ? What is the origin of our ideas : are they partly innate and partly acquired, or are they wholly acquired, and if so, is Sense the sole inlet ? To these questions some replied quite plainly, "Sense is the origin of all our ideas".⁽²⁴⁾ Locke's answer was, "Sense and reflection are the sources of all our ideas".⁽²⁵⁾ Leibnitz maintained that, "there is nothing in the intellect which was not previously in the sense, except the intellect itself".⁽²⁶⁾

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- (20) (1) Thilly, History of Philosophy, op.cit., pp. 310-311;
(11) Murphy, Gardner, Historical Introduction to Modern Psychology, London, Routledge and Kegan Paul, 5th ed., (1949), 1st published (1928), pp.27-29.
- (21) (1) Lewes, G.H., The Biographical History of Philosophy, op.cit., p.436;
(11) _____, The History of Philosophy, op.cit., vol. 2, pp. 239 ff.
(111) Brett's History of Psychology, op.cit., p.404.
- (22) ibid p.404
- (23) John Locke being described by G.H. Lewes in: The Biological History of Philosophy, op.cit. p.434; see also :
W.R. Sorley : A History of English Philosophy, op.cit. Ch.VI
- (24) Hobbes's Leviathan op.cit. p.7
- (25) See John Locke's Philosophical Works, ed. by J.A. St. John. London, George Virtue, (1843) Book II, Ch. I. p. 122
- (26) Thilly, op.cit. pp. 307 ff.

Compared with Hobbes's, Locke's role seems to be more influential in British empiricism. Unlike Hobbes, he appears to have assumed a more functional attitude. Again, unlike Hobbes, who regarded sensations as the main source of all experience, Locke considered "the ideas of sensation", transformed by reflection, as the vital means of experience. He unequivocally distinguished between "ideas of sensation" and "ideas of reflection".⁽²⁷⁾

According to Locke the mind thinks in three different ways :

(1) by "combining several simple ideas into a compound one", which gives our "complex ideas"; (2) by bringing "two ideas, whether simple or complex, together, and setting them by one another, so as to take a view of them at once, without uniting them into one - which gives us "ideas of relations"; (3) by "separating them from all other ideas that accompany them in their real existence; this is called abstraction"⁽²⁸⁾, and is the means by which all our "general ideas" are formed. These processes correspond closely to our modern conceptions of fusion, complication, and analysis.

(27) See : (1) Thilly, History of Philosophy op.cit, pp.364 ff.

(11) G.H. Lewes, The Biographical History of Philosophy, op.cit, p.441.

(111) J.H. Warren, op.cit., pp. 38-39.

(28) See : (1) John Locke's Philosophical Works, op.cit., Book II, Ch.1, pp. 122-123.

(11) John Locke : Essay Concerning Human Understanding (1690) in British Moralists, Ed. by L.A.Selby-Bigge. pp. 326-356.

(29)
Locke seconds Hobbes's attempt to derive all complex experience from simple experience, but differs with him in deriving simple experience from reflection as well as from sensation. He thereby abandons the field of pure sensationism; and in this respect he is followed by later English writers.⁽³⁰⁾ His chief historic merit in psychology, however, is his contribution of the term "association of ideas", which focused the attention of future thinkers on this factor as a means for the empirical derivation of knowledge.

The result of speculations begun by Hobbes and further developed by Locke was to settle the dispute respecting "Experience", and to give, therefore, a new direction to inquiry. It was considered as established⁽³¹⁾: (1) That we could have no knowledge which is not derived from experience. (2) That experience was of

(29) (i) John Locke : Essay Concerning Human Understanding,
op.cit. Book II., Ch.12

(11) H.C. Warren, op.cit., p.38

(30) See (1) Locke's Philosophical Works, op.cit. Book II,
Chapters 2 and 12.

(11) Heidbreder, Seven Psychologies, op.cit. pp.40-41.

(31) See (i) G.H. Lewes, The Biographical History of
Philosophy, op.cit., p.460

(11) H.C, Warren, op.cit., p.40

(111) John Passmore, op.cit., pp.71, 180, 205, 428.

two kinds : viz. of external objects and of internal operations; that meant there were two distinct sources: sensations and reflections. (3) That all knowledge could only consist in the agreement or disagreement of our ideas. (4) We could never know things in themselves, but only things* as they affect us, i.e. only our ideas. Such in a nutshell were Hobbes's and Locke's positions respectively.

Three distinct systems may be associated with Locke's own system, these are : Berkeley's Idealism, Hume's Scepticism, and in France, Condillac's Sensationalism. It is with the first of these that the following paragraphs will now be concerned.

George Berkeley (1685-1753), in entire agreement with Locke, pointed out that our knowledge of the external world comes through the senses. (32) He considerably stressed the association process, which he termed "suggestion". He enumerated several of its modes; e.g. "Distance", which is "suggested to the mind by the

* Perhaps it was the British Associationism which took the stimulus-response form in America in 1898 that gave Behaviourism its impetus in 1912.

(32) (1) Heidebreder : Seven Psychologies, op.cit. p.43.

(11) George Henry Lewes : The Biographical History of Philosophy, op.cit., p.465.

(111) _____ : The History of Philosophy, Vol. 2
op.cit., pp. 295ff.

(1v) W.R. Sorley, A History of English Philosophy,
op.cit., Ch. VII.

mediation of some other idea, which is itself perceived in the act of seeing".⁽³³⁾ G.H.Lewes⁽³⁴⁾ cited Berkeley as saying :
"... That the things I see with my eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence I deny is that which philosophers call matter, or corporeal substance ". This, in a sense, reflects his idealism. The prior subjective nature of knowledge, then prevailing at Berkeley's era led eventually to idealism.* One great⁽³⁵⁾ result of Berkeley's effort was that he taught about the vanity of ontological speculations. Berkeley maintained, "That one idea may suggest another to the mind, it will suffice that they have been observed to go together, without any

(33) (1) Berkeley, New Theory of Vision, (1709) Sec: 16.
cf. Treatise Concerning The Principles of Human Knowledge.
(1710), Sec: 43.

(ii) H.C. Warren, op.cit. p.40

(34) The Biographical History of Philosophy, op.cit., p.465

* There came afterwards what was called the Neo-Idealist movement. Unlike the Hegelian idealism, in England this movement had maintained its reasonable as well as its spiritual aspect. It found its way right through to literature, especially poetry; its chief representatives were the romantic poets, namely, Shelley, Keats, Wordsworth, and Coleridge, whose all important role, not only as a poet but also as a philosopher, will be considered in a following section of the present chapter.

(35) (1) G.H. Lewes : The Biographical History of Philosophy, op.cit.
p. 478.

(ii) See also : Murphy: op.cit. pp.30-32.

demonstration of the necessity of their co existence".⁽³⁶⁾

Berkeley divides our mental content into ideas of sense and ideas of imagination. "The ideas of sense are more strong, lively, and distinct than those of the imagination; they have likewise a steadiness, order and coherence and are not excited at random ... but in a regular train series".⁽³⁷⁾ The ideas of imagination "are more properly termed ideas or images of things which they copy and represent"⁽³⁸⁾ - this is a hint towards the modern use of the term "idea". He added further "I find I can excite ideas in my mind at pleasure".⁽³⁹⁾ He can "by an act of my will ... form a great variety of them and raise them up in my imagination," though "these creatures of my fancy are not altogether so ... permanent as those perceived by my senses".⁽⁴⁰⁾ According to Berkeley "we perceive a continual succession of ideas (both of

(36) New Theory: op.cit., sec. 25.

(37) Principles of Human knowledge, op.cit. sect. 30.

(38) New Theory: sec. 33

(39) Principles of Human Knowledge, op.cit. sect. 28.

(40) Dialogues between Hylas and Philous,
(1713) II.

sense and of imagination); some are anew excited, others are changed or totally disappear".⁽⁴¹⁾ The ideas themselves are inactive, so that one idea cannot produce or make any alteration in another,⁽⁴²⁾ but the changes are caused by an "incorporal active substance or spirit".⁽⁴³⁾

Berkeley's work transformed the problem of knowledge into a distinctively psychological one. Although his philosophical standpoint was idealistic, it rests, nevertheless, on experience. His analysis was more thoroughly empirical than that of Hobbes and Locke. His theory of visual space perception especially called attention to the fact that our knowledge of distance is analysable into simpler experiences. This idea in itself seems to have encouraged his successors to go deeper into the analysis and synthesis of all classes of experience. His psychological empiricism, however, exerted great effect. To substitute "notion"⁽⁴⁴⁾ for "idea" was a significant change in his outlook psychologically. It so often happens that a reader of Berkeley's writings would encounter his constant appeal to regard experience as experience. His

(41) Principles of Human Knowledge, op.cit., Sect.26.

(42) ibid, Sect. 25.

(43) ibid, Sect. 26. See also : New Theory Sect. 26.

(44) See : (1) Hoffding, H., op.cit., Vol. I, pp. 414 ff;

(11) Warren, H.C., op.cit., p. 42;

(111) Brett's History of Psychology, op.cit, p.412

continuous demand was for a revision of the meaning of words in order to preclude the meaningless contents. In his works,⁽⁴⁵⁾ time and time again the reader is asked to hold himself to what he experiences. This may stand similar to what in modern perception psychology is called the description of what is experienced. A perceived object, for example, is nothing else but the sum of a number of perceived sensory elements. Perhaps his aim was to prove a philosophical postulate, but this does not detract from his valuable, basic attitude as "a pioneer of modern psychology".⁽⁴⁶⁾

Locke, Berkeley, and Hume form a chronological sequence conveniently named, "The English Empirical Philosophy".⁽⁴⁷⁾ The philosophic line which stretches from Bacon* and Hobbes to

(45) A New Theory of Vision, op.cit.

(46) Rasmussen, E.T., "Berkeley and Modern Psychology". The British Journal for the Philosophy of Science, Vol. IV, 1953-54, p.3

See also : This vol, "Physiological Mechanisms in the Perception of Distance by Sight and Berkeley's Theory of Vision" by M.H. Pirenne, pp. 13-21.

(47) See: (1) Brett's History of Psychology, op.cit. p.400

(11) Passmore, John, A Hundred Years of Philosophy, op.cit., pp.179-80, 190-1.

(111) Sorley, W.R. op.cit., Ch. VIII.

* It is interesting to note that in his : Biographical History of Philosophy, (1857), G.H. Lewes took Francis Bacon as a starting-point.

Locke, Berkeley, and Hume, and thence to Bentham, the Mills, and Spencer, implies a complex of coherent and harmonious principles which take on a different appearance according to the standpoint from which they are viewed, but always stand in relation to the same totality. If it is desired to find suitable terms for this totality in its main aspects, "empiricism" or "positivism" must be chosen to show its general philosophic position, "sensationalism" or "phenomenalism" in relation to its theory of knowledge, "associationism" in relation to its psychology, "hedonism", "eudemonism"* or "utilitarianism" in relation to its ethics, "scepticism" or "agnosticism" in relation to its metaphysics, "deism" or "indifferentism" in relation to religion, "liberalism" in relation to politics. The classical empiricism of the XVIIth and XVIIIth Centuries, which is distinguished from its natural successor, the modern empiricism of the XIXth Century, culminated in the philosophy of David Hume and finds a temporary ending there. The terminus was temporary because Hume did not leave behind him a neat and tidy stock of doctrines. Herein lies the real meaning of what is usually in a condescending spirit called "the Human Scepticism". (48)

* According to Oxford Dictionary eudemonism or "Eudaemonism" is that system of ethics which finds the moral standard in the tendency of notions to produce happiness.

(48) R. Metz, A Hundred Years of British Philosophy, op.cit.

pp. 47-48.

The line of British empiricism, upon the whole, runs straight forward and continuously till it reaches its highest point in Hume whose psychological speculations will be discussed below.

David Hume (1711-1776) saw the world as a drift of ideas, "without connection, without permanence, without unity, without meaning, simply present and passing".⁽⁴⁹⁾ Although "Scepticism" dominated Hume's earlier writings, he later on assumed "positivism" as a substitute for it.⁽⁵⁰⁾ He was the first after Aristotle to attempt a thorough classification of the modes of association. He rightly claims for himself entire originality in this field. "Though it be too obvious to escape observation that different ideas are connected together", he writes, "I do not find that any philosopher has attempted to enumerate or class all the principles of association - a subject, however, that seems worthy of curiosity".⁽⁵¹⁾ To him there appeared to be only three principles of connection among ideas, namely, "resemblance", "contiguity in time or place" and "cause or effect".

(49) Heidebreder, Seven Psychologies, op.cit. p 49.

(50) Brett's History of Psychology, op.cit., pp 414-415.

(51) Hume, Enquiry Concerning Human Understanding, (1784), Sect. 3 ; cf. Treatise on Human Nature (1739), Book I, Part I, Sect. 4.

A significant contribution made by Hume is his alteration of the meaning of the term "idea"⁽⁵²⁾ in the direction already suggested by Berkeley. Hume divides experience into "impressions" and "ideas".⁽⁵³⁾ Impressions consist of sensations, passions, and emotions "which enter with most force" into consciousness.⁽⁵⁴⁾ Ideas are "faint images of these"⁽⁵⁶⁾; they are "copies of our impressions".⁽⁵⁵⁾

(52) (1) Enquiry Concerning Human Understanding, op.cit. Sect.3

(11) See also : Hoffding : History of Modern Philosophy, op.cit., p.435. Vol I.

(53) (1) Hoffding, Vol.I, op.cit. p.435.

(11) Brett's History op.cit., pp. 419-420.

(54) (1) Hume's Treatise, op.cit., Book I, part I, Sect. 1.

(11) G.H. Lewes : The History of Philosophy, Vol. 2, op.cit. pp. 325 ff.

One has to bear in mind that scepticism which Hume brought about - afterwards he abandoned to positivism - has nothing very alarming in it to the human being, except to philosophy. In Hume's view there is no convincing argument from experience to prove that the perceptions are connected with external objects. This, doubtless, is sheer scepticism. Whereas idealism would argue that the very perception or sensible image is the external object.

See : G.H. Lewes : The Biographical History of Philosophy, op.cit., pp.484-485.

(55) Treatise, op.cit., Book I, part I, sect. I.

(56) Enquiry, op.cit. Sect. 2.

Ideas are of two sorts : memories and imaginations; the former are more lively, while the latter are not restricted to the order or form of our original impressions. (57) Impressions as used by Hume include what are today known as sensations and perceptions; his term "idea" includes both images and thoughts in modernpsychological terminology.

Having settled his terminology, Hume proceeds to consider the nature of the connection between successive ideas. "It is evident", he observed, "that there is a principle of connection between the different thoughts or ideas of the mind, and that in their appearance to the memory or imagination, they introduce each other with a certain degree of method and regularity". (58) Ideas are apriori connected, not by mere chance, but by a preconceived deliberate determination; "Were ideas entirely loose and unconnected, chance alone would join them". (59) But since, "the same simple ideas ... fall regularly into complex ones," it must be supposed that there is "some bond of union among them, some associating quality by which one idea naturally introduces another". (60) This uniting principle "is not to be considered as an inseparable connection ... Nor yet are we to conclude that without it the mind cannot join two ideas ... But we are only to regard it as a gentle force, which commonly prevails". (61) It is

(57) Treatise, op.cit. Sect 3.

(58) Enquiry, op.cit. Sect 3.

(60) ibid.

(59) Treatise, op.cit. Sect 4.

(61) ibid.

at this stage in the discussion that he enumerates his three modes of association alluded to above - resemblance, contiguity, and causality.

Throughout his two works, Hume concerned himself chiefly with the association of representative experiences. But he notes that "there is an attraction or association among impressions as well as among ideas; though with this remarkable difference, that ideas are associated by resemblance, contiguity, and causation, and impressions only by resemblance".⁽⁶²⁾ This, however, does not belong to his general analysis, it is a mere casual statement. Hume's analysis, however, lags behind Hobbes and Locke in this respect.⁽⁶³⁾ The psychology of Hume, one would say, is a rounding out of Berkeley's and Locke's. Like Hobbes, Locke and Berkeley, Hume, carrying his analysis through successive stages, arrived at a point where no absolute justification could be given for the authority of the intellect. Starting, like them, from the empirical standpoint, he employs a more rigid method, especially in analysing the notions of causality and necessary connection, and advances to the epistemological⁽⁶⁴⁾ conclusion that all

(62) ibid. Sect. 5

(63) (1) Brett's History of psychology, op.cit., p.420.

(11) Heidbreder, Seven Psychologies, op.cit., p.51.

(64) ibid. See also : H.C. Warren, op.cit., pp.45-46.

knowledge is knowledge of experience. Historically, his work forms the starting-point of two widely distinct movements in philosophy and psychology. The British School, which had already abandoned the notion of innate ideas, sought by further analysis of consciousness in terms of association to obtain the utmost out of experience. In England, philosophy after Hume became both associationistic as well as psychological, while the Scottish school,* inaugurated by Thomas Reid in 1764, followed Hume in the empirical analysis of consciousness, but held that experience gives a direct, intuitive knowledge of things; hence it found less need for the principle of association. In the line of direct development, Hartley's analysis is a natural extension of Hume's. (65)

* The most eminent members of the Scottish school were : Thomas Reid (1710-1796), Dugald Stewart (1753-1828), Thomas Brown (1778-1820), Sir James Mackintosh (1765-1832), Sir William Hamilton (1788-1856), Henry L. Mansel (1820-1871), John D. Morell (1816-1891), James M'Cosh (1811-1894), Henry Calderwood (1830-1897) and others.

(65) (i) Mandler, J.M. & Mandler, G. Thinking, op.cit. pp.51-68.

(ii) Thilly, op.cit. pp. 345-361.

(iii) Lange, op.cit., pp. 204-211.

(iv) H.C. Warren, op.cit. pp. 43-47.

(v) G.H. Lewes, The Biographical History of Philosophy,
op.cit., p.479-485.

According to Hume, then, objects are not necessarily connected; it is the ideas which are connected in our mind by association. The association is the result of repetition, of habit.* The ideas have gone together so often that when one appears it suggests the other. What is happening here is not logical but psychological necessity, which depends on experience, the process is the same among men and animals alike.

It is difficult to name the founder of associationism in Britain - it may have been Hobbes or Locke, Berkeley or Hume - but there can be no doubt that in the work of David Hartley⁽⁶⁶⁾ (1705-1757) the basic doctrine was formulated with all the definiteness and explicitness that any school could require. Hartley taught that there are two orders of events

* A comparative study of the term "habit" as then was used by Hume and as now used in modern psychological theories of learning could be an interesting topic of research.

(66) See : (1) G.H. Lewes, The Biographical History of Philosophy, op.cit. pp 509-511.

(11) Brett's History of Psychology, op.cit., pp. 421-428.

(111) Heidbreder, Seven Psychologies, op.cit. pp.53-54.

A small correction here must be made on Heidbreder's side : on p.54 instead of David Hartley, "Daniel Hartley" was mentioned ; this should be observed.

to be taken into account, the mental and the physical. They are not identical but run parallel* to each other, so that a change in one is accompanied by a change in the other. On the mental side, there are sensations and ideas; on the physical side, there are vibrations. To him, there was a direct connection between sensation and idea. However, the strength of his system probably lies in :

- (1) applying the association doctrine to the explanation of mental phenomena ;
- (11) using the whole system to explain certain physiological functions which may be called voluntary and involuntary actions, to employ modern psychological terms.

The two fundamental points of Hartley's theory of mind, then, are (1) his attempt to trace a close correspondence between mental and neural activity in terms of vibration, and (2) his elaboration of all experience according to the principles of association. Hartley's doctrine of vibrations, though it suggests certain modern theories of psychological parallelism, was not their direct precursor. His work :

* (1) Cf. R. Descartes's dualism: mind and matter, the thinking substance and the extended substance.

(11) F.H. Bradley: Appearance and Reality (1893), Ch. XXIII, Body and Soul.

(111) and in recent time W. McDougall : Body and Mind.

Observations on Man, his Frame, his Duty, and his Expectations*, (1749)⁽⁶⁷⁾, is divided into two parts, the first comprising Hartley's psychology ("observations on the frame of the human body and mind"), the second his ethics and theology ("observations on the duty and expectations of mankind"). Only the former concerns us here. Man, according to Hartley, consists of body and mind. Body is subject to investigations of the same sort "as the other parts of the external material world". Mind is "that substance, agent, principle, etc, to which we refer the sensations, ideas, pleasures, pains, and voluntary motions".⁽⁶⁸⁾ He divides experience, or "internal feelings" into sensations and ideas. "Sensations", he wrote, "are those internal feelings of the mind which arise from the impressions made by external objects upon the several parts of our bodies."^{**} All our other internal feelings may be called ideas".⁽⁶⁹⁾ — The ideas which resemble "sensations are called ideas of sensation; all the rest may therefore be called intellectual ideas" ; and he

* Hartley's work was reprinted with an introduction by Parr in 1801.

(67) H. Hoffding, op.cit., Vol. I, pp. 446ff.

(68) Observations, Part I, Introduction.

(69) Observations, op.cit. Introduction.

** Here we can note the advance over Hume in this distinction between the physical impressions or stimuli and the resulting sensations.

proposes to show that "the ideas of sensation are the elements of which all the rest are compounded". Pleasures and pains are either sensations or ideas, all experiences being "attended with some degree either of pleasure or pain".⁽⁷⁰⁾ Hartley expressly excludes "reflections" as a separate source of ideas, and in this way seeks to make his analysis simpler than Locke's.

Hartley assumed that the human mind was endowed with certain faculties, namely, "memory, imagination or fancy, understanding, affection, and will",⁽⁷¹⁾ by means of which the elements are transformed. The motions of the body, he maintained, are of two kinds, automatic and voluntary; The former "are those which arise from the mechanism of the body in an evident manner", while the latter are "those which arise from ideas and affections, and which therefore are referred to the mind".⁽⁷²⁾ He proposed, then, (1) to lay down the general laws "according to which the sensations and motions are performed" and "ideas generated" ; (2) to apply these laws in turn to each sort of sensation and motion ; and (3) to apply them further to the genesis of each particular sort of ideas, such as memory, imagination, etc.

(70) ibid.

(71) ibid.

(72) ibid.

The sole basis of association,⁽⁷³⁾ as Hartley conceived it, is contiguity; and he limits it to contiguity in time. Sensations must be simultaneous or in immediate succession in order that one may bring up the idea of the other. His view seems to be that contiguity in space is no part of the mental law ; if spatially contiguous objects are more likely to be sensed at the same time or successively than objects which lie far apart, this is a physical phenomenon. Whether the objects be distant or adjacent, it is the simultaneity or succession of their impressions that leads to the association, not their space relation. Hartley ignores the law of resemblance altogether. The only resemblance which he recognises is that between the sensation and its corresponding idea. An idea does not recall similar ideas, but the same idea is repeated, and with it are associated others formerly experienced contiguously.⁽⁷⁴⁾

Hartley broadens the conception of association by including the motor side in his discussion. The function of habit plays an important part in his analysis of the associative process. He holds that muscular movements form associations of the same sort as the associations between ideas,

(73) H.C. Warren, op.cit., p.55

(74) ibid pp.55-56.

so that the recurrence of one tends to reinstate others which formerly succeeded it. The recurrence of a movement may recall an idea formerly associated with it, or the recurrence of a sensation or idea may bring about the reception of a movement. Thus in Hartley, for the first time, we find the principle of association stated broadly enough to cover the entire field of human experience and activity. (75)

Hartley's discussion of volition, though more adequate than that of his predecessors, is scattered about in various places and is no where brought together in a summary. The "will" is brought into vital relation with muscular activity in general. The motor theory is worked out along associational lines for the first time. His treatment of sensory pleasures and pains is too brief to be satisfactory. There is also some artificiality in his analysis of memory. Nevertheless, Hartley's attempt was the first of its kind to apply fully the associative principle for the interpretation of any experimental activity. His principal aim appears to be to explain the entire mental life in terms of the succession

(75) (1) Observations op.cit. Book I, Part I, Sect: 4.

(11) For further reading, see: J. Edward Erdmann, A History of Philosophy, English Trans., 3 Vols, London, Swan and Co., (1890), especially Vol. 3, Modern Philosophy.

of elementary experience. His sole data were sensations, which may be transformed into higher complexes; the complexes, in turn, may transit from "one conscious state to the next".⁽⁷⁶⁾

2. Other XVIIIth Century Associationists.

For a full appreciation of the scope of associationist thought in the XVIIIth Century, it is imperative to have a brief look at other associationists, before considering the Mills (father and son) and Bain. One of these was Abraham Tucker (1705-1774). He reviewed the associationist analysis of mind exhaustively. Next to him comes Joseph Priestley (1733-1804), who was attracted by Hartley's theory; he adopted and popularised it. Both he and Tucker reiterated the view that mental phenomena are altered by fusion. These were followed by Archibald Alison (1757-1839), who affirmed that matter arouses sensations, not emotions; the latter arise only through the exercise of the imagination. Hartley's theory was also taken up by Erasmus Darwin (1731-1802), the grandfather of Charles Darwin.* Erasmus Darwin was a natural philosopher, a doctor, and a poet. In his chief work, Zoonomia, or The Laws of Organic Life (London, 1794), he explains the origin of instincts** through experience

(76) H.C. Warren, A History of Association Psychology, op.cit. p. 64.

* Will be thoroughly considered with others in the next chapter.

** This will be the main Theme of Part II of this study.

and association, under the influence of the impulse to self-preservation and accommodation to circumstances. He goes farther than Hartley, since he lays special weight on the fact that acquired qualities* may be transmitted ; the psychology of association is thus extended to a biological doctrine of evolution, which has not a little in common with the hypothesis of the development of species brought forward some years later by Lamarck; and, together with this, it prepared the way for the great hypothesis with which the name of Darwin must be ever connected. Next comes Thomas Brown (1778-1820), a pupil of Dugald Stewart (1753-1828), through whose teachings he was grounded in the tradition of Thomas Reid (1710-1796) and the Scottish school. But unlike the Scottish psychologists, Brown does not consider the mental processes special faculties or powers of mind. He makes them, like Hartley, manifestations of the workings of association. In his "Lectures on the Philosophy of the Human Mind" (1820), he adopted a standpoint alien to the

* As it will be seen later in part II of this study, this was the basis of McDougall's experiments conducted between 1926-1938.

English movement. (77) *

Brown filled the gaps left unexplained by associationism in its cruder forms. He enunciated two main principles of mental life, which he called respectively, "simple suggestion" and "relative suggestion". It is relative suggestion that accounts for the creative aspects of the mind. Brown substituted the term "suggestion" for "association", which he considered implied some process of unification between the ideas associated. Another important point which Brown put forward and met with quicker recognition was his emphasis of the importance of the muscle sense; a point which he carried over from physiology into psychology. (78)

(77) (1) Hoffding, Vol. I, op.cit. pp.448-449.

(11) H.C. Warren, op.cit. pp.64-80.

(111) F. Thilly, op.cit. p.364.

(1v) J.C. Flügel, A Hundred Years of Psychology, London, Duckworth, (1933), pp. 23-24.

(v) Heidebreder, E. Seven Psychologies, op.cit. p.55

* It was in these lectures that Thomas Brown suggested his nine laws of suggestion, they are : (1) the law of relative duration, (2) the law of relative liveliness, (3) relative frequency, (4) relative recency, (5) law of fewer alternative associations, (6) law of constitution of differences, (7) the law of variations in the same individual, (8) diversities of state, (9) law of habit of life.

(78) (1) J.C. Flügel, op.cit. p.27.

(11) H.C. Warren, op.cit. pp.77-79.

To sum up : The writers dealt with above employed the empirical method in philosophy. They were concerned, generally, in demonstrating that all knowledge is derived from experience. In their psychological analysis they applied the term "association" to the process. Their chief problem was to analyse the complex data of consciousness into elementary experiences, and to show how these elements are combined together by means of the associative factor. A chronological study of the movement indicates how the analysis grew clearer with each writer.

3. The XIXth Century Empiricism.

Historically speaking, there was a break between the classical or traditional associationism and that of the XIXth Century, which is invariably named "modern". However, the division of the association movement into periods should not be regarded as sharp and absolute. The years (1764) and (1865)* (79), for example, represent dramatic climaxes in the controversial arguments between the two schools. Nevertheless, there appear to

* The former marks Thomas Reid's criticism of David Hume's views, the latter represents J.S. Mill's rejection of W. Hamilton's ideas.

(79) (1) G. Murphy, Historical Introduction to Modern Psychology, op.cit. pp.162-4.

(11) R. Metz : A Hundred Years of British Philosophy, pp.47-93.

(111) Brett's History of Psychology, op.cit, pp. 633ff.

be sufficient grounds for grouping the pure associationists into two chronological periods. The period examined in the preceding sections is marked by a groping after fundamental terms, and by a somewhat desultory or at least unsystematic analysis. The writers of the later period assumed the fundamental notions of association, and their task was to make the analysis more orderly and far-reaching.

In accordance with its historical importance, modern empiricism, as exemplified in its chief works from Jeremy Bentham (1748-1832)* to the younger Mill and Bain, shows itself to be an intellectual movement of high rank and very powerful influence. It not only formed the back-bone and driving force of the specific advance in philosophy and psychology, but like no other movement of the day, it diffused its influence into the spheres of literature, culture, education, and all aspects of social life. The XIXth Century empiricism marks a well-worked-out-system of empirical psychology. Apart from the evolutionist school which will be dealt with in the next chapter, the notable figures of modern empiricism are James Mill, John Stuart Mill and Alexander Bain.

* Although Bentham goes back a long way into the XVIIIth Century both in regard to his intellectual education and to his literary activity, he belongs in regard to his philosophic influence to the XIXth Century. He is more accounted for as a philosopher than as a psychologist.

After Bentham, the main stream of empirical thought continued directly in James Mill (1773-1836), a disciple of Bentham.⁽⁸⁰⁾ He forms a bridge from Bentham to his own son, John Stuart Mill. His : Analysis of the Phenomena of the Human Mind (1829)* is the classic of nineteenth century associationism, as Hartley's "Observations" is the classic of the eighteenth century. In it, he laid the psychological foundation of the utilitarian doctrine. "This gaunt and bloodless work propounds an extreme form of associationism", writes Hearnshaw, "in which all man's complex intellectual and moral states are analysed into combinations of 'sensations, ideas, and trains of ideas',** and human action is shown to be wholly dominated by what Mill's teacher, Bentham, called 'two sovereign masters, pain and pleasure'⁽⁸¹⁾". Apart from its function as a foundation, Mill's

(80) (1) L.S. Hearnshaw, A Short History of British Psychology,

London, Methuen, (1964) op.cit, p.2

(11) R. Metz, op.cit. p. 57

* New edition by J.S. Mill, 1869.

** The first inner citation seems to be taken from James Mill's analysis; no page of reference has been given.

(81) L.S. Hearnshaw, op.cit. p. 2

psychology has a special historical importance; in it Mill picked up a junction with the association psychology of the older classical school where it had been broken by the Scottish Thinkers. He gave currency again to the mechanism of the mind, introduced once more the anatomizing method and with it "psychic chemistry", held firmly to the analysis of mental phenomena into their simplest parts (psychic atoms), revived the law of association as the basic law of psychic life and the phenomenalist view in the theory of knowledge, and thus called afresh into existence the whole stock of ideas belonging to the classical philosophic theory. (82)

John Mill drew nearer to Hartley than to Locke and Hume, but refrained from all physiological explanations and confined himself to the simple exploration of consciousness.

(82) (1) J.T. Merz, History of European Thought in the XIXth Century, Vol. 3 p. 202

(11) R. Metz, op.cit. p. 59

(111) L.S. Hearnshaw, op.cit. pp 2-4.

He also accepted Hartley's conception of mental phenomena* rather than Thomas Brown's. Mill adopted two "classes of feelings", "sensations" and "ideas".(83) Besides the traditional five senses, he notices three other sorts of sensations - physical pain, muscular sensations and organic sensations. The experiences derived from these senses are by no means simple. "We can not think of the sensation of colour, without at the same time thinking of something coloured - of

* There seems to be discrepancy as to James Mill's avoidance of appealing to physiological explanations. R. Metz, for example, emphasises this, whereas H.C. Warren is of the opinion that Mill gave due emphasis to the physiological explanations, to the activity of the brain and nervous system, and that he made use of the physiological concomitants to illustrate the principles of mental activity. Checking this against other references, it turned up that Metz was more accurate. G.H. Lewes, for example, in his : Biographical History of Philosophy, p. 528, writes "The Analysis of the Mind, by the late James Mill, which may be regarded as the development of Hartley's doctrine, stripped of its physical hypothesis is less known; but it is a work of great value, and would long ago have been as popular had it been written in a more engaging manner ..."

(83) The Analysis of the Mind, Ch.2, p.52

surface or extension, a notion derived from another sense ... Some of the things suggested by the sensations of sight, as extension and figure, are suggested so instantaneously that they appear to be objects of sight, things actually seen".⁽⁸⁴⁾ The notion of any sense is a complex idea, including as ingredients (1) the idea of the organ, (2) the idea of the sensation, (3) the idea of the object of sensation, (4) the idea of synchronous order of the first two, and (5) the idea of a successive order of the third.⁽⁸⁵⁾ Mill was not of the opinion held by his predecessors that ideas are always fainter than sensations, though he believed this to be usually the case. Some ideas are fainter than others - a condition which is due to the relative remoteness of the original sensation as to the relative vividness of that sensation itself; but it is difficult, he thought, to compare the relative vividness of sensations, except when they are pleasurable or painful.⁽⁸⁶⁾ This conclusion is probably due to his confounding of distinctness with intensity.

Mill's conception of association may be explained by his dictum that "our ideas spring up, or exist, in the order in which the sensations existed of which they are the

(84) ibid, Ch.I, Sect 3, pp 21-22.

(85) ibid, p 19.

(86) op.cit, Ch.3, pp. 84, 85.

copies". For him "this is the general law of the association of ideas, by which term ... nothing is here meant to be expressed but the order of occurrence".⁽⁸⁷⁾ Mill thought that there are degrees in association as there are degrees in sensations and degrees in ideas. Mill finds three conditions which modify the degree : an association is said to be stronger than another when it is (1) "more permanent", (2) "performed with more certainty", and (3) "performed with more facility".⁽⁸⁸⁾ Mill concludes by calling attention to the association of complex ideas together into a "doubly compounded", or "duplex" idea.⁽⁸⁹⁾ These duplex ideas - decomplex ideas in Hartley's terminology - may be of all degrees of complexity. The association theory, however, conceives of mind, or experience, as a series of mental states united into various complexes and successions, very much as the atoms of the physical universe are united into material things and produce material events. Associationism with Mill, then, may properly be termed mechanistic.

Mill considered "conceptions" and "imagnations" as simpler types of experience than memory, which is "an idea and something more".⁽⁹⁰⁾ In this he is in agreement with Brown,

(87) ibid, p. 78

(88) ibid, p. 82

(89) ibid, p. 115

(90) Chap. 10, p 321.

though the general trend of his analysis follows Hartley's more closely. In remembering, he writes, "the mind runs back from the present moment to the moment of perception, that is to say, it runs over the intervening states of consciousness called up by Association; ... and in this case we associate them so rapidly and closely that they run, as it were, into a single point of consciousness, to which the name memory is assigned".⁽⁹¹⁾ This explanation of memory illustrates Mill's mechanical view of association. He attributed the distinction between intellectual and active powers of the mind to the fact that while some "sensations and ideas are considered merely as existing", others are "considered as not merely existing, but also as exciting to action".⁽⁹²⁾ His treatment of pleasurable and painful⁽⁹³⁾ sensations may clearly show Bentham's influence. His analysis, unsatisfactory in many points, it is none the less the most thorough of any up to his time, and the most systematic in its passing from one point to another. It is also the most rigidly associational.

(91) ibid, p 331

(92) Vol II, Ch.15, p 178.

(93) ibid, Chap 19, p 190.

We come now to John Stuart Mill* (1806-1873), in whom modern empiricism reaches its highest point, as the classical empiricism reached its highest peak in Hume a century earlier. In the development of British psychological thought, Mill's work stands for the last great synthesis of empiricism. In it, all the leading themes of empiricism unite once more into a great harmony.⁽⁹⁴⁾ Mill's psychological views** are found in his : System of Logic (1843), and in his :

* Many persons think Mill to be the greatest British Thinker of the XIXth Century. However this may be, it is certain that he was the greatest philosophic writer of his age. Like Bacon, Hobbes, Locke, Shaftesbury, Berkeley, Hume, Bentham, James Mill, and later Spencer, he never held an academic post, and practised philosophy, not as a merely scientific or learned pursuit, but as a spiritual mission to be fulfilled in obedience to an inward call.

(94) (1) R. Metz, op.cit. pp 62ff.

(11) G. Murphy, Historical Introduction to Psychology,
op.cit., p 104.

(111) Brett's History of Psychology, op.cit., pp 633-641.

** It might be helpful to know that most of John Stuart Mill's views came to him by his absorption in the poetry of Wordsworth and from his acquaintance with the great romantic poet and thinker Coleridge and by friendly intercourse with enthusiastic young friends of Coleridge such as Frederick D. Maurice and John Sterling, the friend of Carlyle.

Examination of Sir William Hamilton's Philosophy (1865). In his widely read Logic Mill not only argues that "there is a distinct and separate Science of Mind", but names this science "Psychology".^{(95)*} Mill made a distinction between psychology and ethology,⁽⁹⁶⁾ or the science of character, which has not generally been adopted, but which nevertheless overshadows the much later development of a psychology of personality.

In chapter IV, Book VI, "On the Laws of Mind", of his Logic, Mill presents his conception of association very clearly. The subject-matter of psychology, he declares, is "the uniformities of succession", this is determined by the laws of mind according to which one mental state succeeds another.⁽⁹⁷⁾ Two of the most general laws are as follows : (1) "Whenever any state of consciousness has once been excited in us, no matter by what cause, an inferior degree of the same state of

(95) (1) John Stuart Mill, System of Logic, London, Longman's (1884), (People's edition) 1st publ. (1843), Book VI, Ch.4.

(11) See also : L.S. Hearnshaw, op.cit. p.3

* Ethology as it has been mentioned above, was originally employed by J.S.Mill to designate the "Science of Character"; N.Tinbergen has recently used the term to mean always "the scientific study of Animal Behaviour". Tinbergen's use, however, is criticised.

(96) System of Logic, Book VI, Ch.V

(97) op.cit. Sect.3.

consciousness, a state of consciousness resembling the former but inferior in intensity, is capable of being reproduced in us without the presence of any such cause as excited it at first". This defines the nature of ideas in relation to sensations. (2) "These ideas or secondary mental states, are excited by our impressions or by other ideas according to certain laws which are called Laws of Association.⁽⁹⁸⁾" In his Logic, Mill formulated three such laws of mind : "similarity", "contiguity", which he combined with frequency or habit, and "intensity".⁽⁹⁹⁾

Mill differed with his father on the question of similarity,⁽¹⁰⁰⁾ making it the first principle of association. Moreover, he held⁽¹⁰¹⁾ that the laws of association are supplemented by certain laws of "obliviscence", the principal one of which he stated as follows : "When a number of ideas suggest one another by association with such certainty and rapidity as to coalesce together in a group, all those members of the group which remain long without being especially

(98) ibid,

(99) ibid. Here it must be noticed that in a note to the "Analysis", J.S. Mill rejects the law of contrast absolutely. See Vol I, p. 126

(100) Examination of Sir William Hamilton Philosophy, (1865) Vol. I, Ch II, p 235.

(101) ibid.

attended to, have a tendency to drop out of consciousness".⁽¹⁰²⁾

Mill's views of the compounding of experiences is most clearly stated in his System of Logic. Certain of our complex ideas, as he thinks, are generated from simple ones; they do not consist of them. For, "the effect of concurring causes is not always precisely the sum of the effects of those causes when separate, nor even always an effect of the same kind".⁽¹⁰³⁾ In psychology, as in the physical sciences, there are two distinct types : "The laws of the phenomena of mind are sometimes analogous to mechanical, but sometimes also to chemical laws. When many impressions or ideas are operating in the mind together, there sometimes takes place a process of similar kind to chemical combination. When impressions have been so often experienced in conjunction that each of them calls up readily and instantaneously the ideas of the whole group, those ideas sometimes melt and coalesce into one another, and appear not several ideas but one."⁽¹⁰⁴⁾ With the application of mental chemistry, Mill files two caveats. (1) When we see that some complex idea may have been generated in this wise from

(102) ibid, Vol I, p. 317

(103) System of Logic, op.cit. Sect 3.

(104) ibid.

simpler elements, we should not assume at once that it actually has been there; (2) even if the association theory be proved, "we should not be the more enabled to resolve the laws of the more complex feelings into those of the simpler ones".⁽¹⁰⁵⁾

Although J.S. Mill's psychological analysis might be thought of as detached and incomplete, this disadvantage is scarcely felt if his system is taken as a whole. According to him association produces experiences which are really unitary. Association does more than unite - it transforms. Furthermore, his thorough analysis of consciousness has been an avenue taken up by his contemporary Bain, whose views will be the concern of the following sections.

Alexander Bain (1818-1903) "can⁽¹⁰⁶⁾ rightly be regarded as opening a new chapter in the history of British psychology" - writes Hearnshaw, "a new chapter, not a new book; for in recognising Bain's^{*} advances on his predecessors, we must

(105) ibid.

(106) L.S. Hearnshaw, A Short History of British Psychology, op.cit. pp 5-6.

(*) It was in Bain, Sir J.G.Frazer, and J. Caird that the three chief schools of British Philosophy in the XIXth Century were for many years represented Contemporaneously at the Scottish universities; The Scottish school was in decline, the empirical at its highest point, and the idealist on the upward path.

not underestimate his debts to them. Behind him lay the whole history of British associationist psychology, adumbrated by Hobbes and Locke, and worked out more elaborately by the admirable Hartley (1705-1757), whose Observations on Man (1749) are systematic, thorough, and as far as the knowledge of his day permitted, factual". This passage has been cited at length to show the advantages that formed the background to Bain. As a psychologist he stands halfway between the mental philosophy of the eighteenth and early nineteenth centuries and the scientific psychology of this century. He was "a transitional figure",⁽¹⁰⁷⁾ he "moved at least part of the way from the older intellectualism and associationism to the activist and hormic psychologies which supplanted it".⁽¹⁰⁸⁾

Alexander Bain was one of the most gifted pupils of Mill. He owed his advancement to him. But he was no less influenced by "the two great seminal minds of England in their age".^{(109)*} Hearnshaw quoted J.S. Mill as saying, "Every

(107) L.S. Hearnshaw, op.cit. p. 9

(108) ibid.

(109) ibid p. 6

* The allusion is to Bentham and Coleridge, it is made by Mill and quoted by L.S. Hearnshaw as above.

Englishman of the present day is by implication either a Benthamite or a Coleridgean".⁽¹¹⁰⁾ S.T.Coleridge (1772-1834) indeed, is a figure of fundamental interest to British psychologists. He rejected the atomism and the passivity of the older associationists. He turned from the associationism of Hartley. He stressed the underlying unity and activity of the mind and the role of the feeling; and he was interested in the active powers of imagination, which he distinguished from the passive associative principle he termed "fancy". He believed that the separation of psychology from physiology was fatal, depriving the former of all root and objective truth, and reducing the latter to a mere enumeration of facts and phenomena.⁽¹¹¹⁾ This brief divergence has been as necessary to

(110) (1) ibid p. 6

(11) See also : R. Metz, op.cit., pp 74-76.

(111) S.T.Coleridge, The Philosophical Lectures, a series of lectures beginning December 14, 1818 to March 29, 1819, ed. by Kathleen Coburn (1949), London, The Pilot Press Limited, see especially Lectures XI, XII, and XIII.

(iv) S.T.Coleridge, Biographia Literaria (1817), a reprint (1905), London, George Bell & Sons, particularly, Chapters 5,6,7 and 8.

(v) _____, Confessions of An Inquiring Spirit, a reprint (1849) London, William Pickering.

(vi) For further reading see also : J.B.Beer, Coleridge: The Visionary, (1959), London, Chatto & Windus.

(111) L.S. Hearnshaw, op.cit. pp 7-8.

show that "There was indeed more in Bain's background than Bain ever realised".⁽¹¹²⁾

In his two great and influential works: The Senses and the Intellect (1855) and The Emotions and The Will (1859)*, in which he treated the whole field of mental life more thoroughly and comprehensively than had ever before been done, he carried forward the direct line of British psychology. Bain's conception of mind is contained in his two volumes above. Following an associative principle in his analysis; he discussed mental content in a full and thorough manner. He distinguished at the outset between three sorts of mental phenomena: (1) feeling, including "pleasure and pains, emotion, passion, affection, sentiment"; (2) "volition, or the will, embracing the whole of our activity as directed by our feelings", and (3) "thought, intellect, or cognition".⁽¹¹³⁾ "Intellect" includes such functions as memory, reason, judgement, and imagination".⁽¹¹⁴⁾ It implies three facts: (1) "Dis-

(112) ibid p.8

* It is interesting to note that these two years coincide with the publication of H. Spencer's Principles of Psychology, and Darwin's Origin of Species. Bain's two books, though separate, represent a chief book on psychology.

(113) The Senses and the Intellect, introduction Ch.1, Sec.2.

(114) ibid, sect 3.

crimination, or sense of difference, shown by our being conscious of one sensation as more intense than another"; (2) "Similarity, or sense of agreement"; (3) "Retentiveness, commonly understood by the familiar names memory and recollection; this power is essential to the operation of the two former".⁽¹¹⁵⁾ Discrimination involves an important mental principle - The Law of Relativity: "As change of impression is an indispensable condition of our being conscious, or of being mentally alive to feeling and thought, every mental experience is necessarily two-fold. We can neither feel nor know heat, except in the transition from cold. In every feeling there are two contrasting states; in every act of knowledge two things are known together".⁽¹¹⁶⁾

Bain gave four laws of mind. These are : (1) The law of contiguity, which is "The law of association proper, of adhesion, mental adhesiveness, or acquisition", is stated thus: "Actions, sensations, and states of feeling, occurring together or in close succession, tend to grow together, or cohere, in such a way that, when any one of them is afterwards presented to the mind, the others are apt to be brought up in idea".⁽¹¹⁷⁾ (2) The other law is of Agreement: "Present

(115) ibid.

(116) ibid. Sect 6.

(117) ibid. Ch.I, Sect. I.

actions, sensations, thoughts, or emotions tend to revive their like among previous impressions".⁽¹¹⁸⁾ (3) Bain's third principle is the law of compound association : "Past actions, sensations, thoughts or emotions are recalled more easily when associated either through contiguity or similarity, with more than one present object or impression"⁽¹¹⁹⁾.

(4) The fourth principle, constructive Imagination is stated as follows : "By means of association the mind has the power to form new combinations or aggregates, different from any that have been presented to it in the course of experience"⁽¹²⁰⁾. This operation is known as imagination, creation, constructiveness, and origination or invention; it is the process whereby we put together new forms of mental imagery. Bain affirms that the intellectual forces operating in these creations are no other than the associating forces already discussed; the new combinations grow out of elements already possessed by the mind, and brought forward according to the laws above laid down. In his psychological treatment, Bain places the active side of mind ahead of the intellectual in his analysis. This order has peculiar significance in his

(118) ibid Ch.2, Sect I.

(119) ibid Ch.3, Sect I.

(120) ibid Ch.4, Sect I.

system. His analysis of the distinction between subject and object, forms an interesting contrast with that of J.S.Mill. He finds that these two sides are separated in experience by three independent criteria: (1) objects are characterised by "movement ... as contrasted with passive emotion" which characterises the subject. (2) "Definite feelings connected with movements" characterise the object, in contrast with "feelings independent of our movements ...". (3) "Experience common to all (object), as against experience special to each (subject)".⁽¹²¹⁾ Emotions, according to him, are complex manifestations of feeling. The direct external stimulus, which is the prominent physical element in sensation, is lacking in emotion, and in its place we find the "outward manifestations of diffused wave of effects".⁽¹²²⁾

The salient points in Bain's position are : (1) the key to his psychology is found in the relation which he assumes between experience and motor impulse. (2) Discrimination, the elemental fact of intellect, is an original element in all

(121) The Emotions and the Will, Ch. on construction, Sec. 28.

(122) ibid, Ch. I, Sec. 2.

experience. (3) The revival of impressions without renewal of the external stimulus, resulting in ideas, is a fact explicable in physiological terms, and its psychological formulation appears in the law of Association. (4) Motor co-ordination and voluntary control result from the association of ideas with motor impulses according to the same laws. (5) the emotions are traceable to complications of primitive feeling, motor impulse, and discrimination. (6) The fundamental facts of consciousness thus appear to be primitive feeling, discrimination and associative revival.

To complete the picture of modern empiricism it is necessary to mention in passing, some of Bain's younger contemporaries. One of these is Samuel Bailey (1791-1870) a writer on psychology and other disciplines. He vigorously attacked the "faculty" interpretation of mind. His empiricism led him to question Berkeley's theory that distance perception is an inference. Another associationist is John Daniel Morell (1811-1891), who saw that the strength of an association may be in every case be stated as equal to the amount of the action and of the associated ideas. Another thinker is George Croom Robertson (1842-1892). He devoted himself mainly to psychology; but not on a wide scale. He

never covered the whole field of psychic phenomena. Thomas Fowler (1832-1904), represented a moderate utilitarianism. Like Mill before, he pledged himself to morality more than anything else. He supported associationism.

To sum up, James Mill's psychology was influenced by agnosticism which made him go further towards mechanistic theory. He reduced mental life to elementary sensory particles. He, to some degree, influenced Bain. In him "associationism and hedonism were thoroughly fused",⁽¹²³⁾ and every experience was conceived to be reducible to sensory components under the guidance of the pleasure-pain principle. The machinery of the mind is the associative process. He made no attempt to correlate the mental processes with the brain processes as Hartley did. His analysis of consciousness is introspective and in this he followed Brown. His view of associationism enabled him to analyse the higher mental processes, such as conception and reasoning, with better success than his predecessors. A concept is a cluster of ideas, and reasoning is the association of the terms of propositions. Other associationists, however, were opposed to his instrument of research, but no one more

(123) G. Murphy, op.cit. pp 102-104.

vigorously than his son, John Stuart Mill. In addition to the empirical, associationist psychology with its hedonism, egoism, and determinism, one finds leanings towards intentionism, perfectionism, altruism, and free will. J S. Mill was above all a logician. He transformed his father's system with emendation ; he brought a psychology resting on a basis of his own construction. He developed the chemical theory of mental states as his father before him developed the mechanical theory of mind. The psychological arguments of the two Mills were taken over by Alexander Bain whose psychology showed in many respects an advance beyond the former position and pointed forward to the future of evolutionism and voluntarism. His task consisted in the fact that he gave a more modern turn to the empirical psychology. He emphasised the Physiological Concomitants of mental processes, and in this his position presents a sharp contrast to the Mills and Brown. With Bain, brain activity was no longer conceived of as a mechanical vibration, and the notion of diffusion of nervous impulses had arisen to account for

the emotions.* To him every sensation is accompanied by a tendency to movement, which grows in strength with the increased intensity of feeling. The associative analysis was a fundamental element in his system. "Perhaps British psychology would have advanced more rapidly and more surely if it had more closely followed Bain"⁽¹²⁴⁾ as Hearnshaw has rightly judged. Undoubtedly, Bain's work represents the climax of the purely associationist movement.

However, the central themes of the association school were pleasure and pain. Emotions or "passions"^{**} also loomed large. Two kinds of emotions were distinguished : simple and compound. All manifestations of moral feeling

* In the Senses and the Intellect Bain dealt thoroughly with "instincts". He defined instinct as "the untaught ability to perform actions of all kinds, and more especially such as are necessary or useful to the animal". Whether this is entirely acceptable or not will, however, be considered in another place in connection with the instinctive concepts.

(124) A Short History of British Psychology, op.cit. p.14

** The term "passion" was used by older psychologists to mean "instincts", "appetites", "emotions", and other modern terms. It was employed, however, by different writers to express different meanings.

are encountered among the latter category. The will was thought to be rooted in the activity of the organism as a whole; yet it may emerge from passions as well. Voluntary facts are subject to the universal law of causality.*

Associationism of some kind, however, is the oldest factor in psychological theory. From the various arguments it may be concluded that the associationists tried, each in his own way, to hold together the two fundamental aspects of life : form and matter, or, act and content, to use psychological terms. By association⁽¹²⁵⁾ it was almost always understood that the recall or reproduction of ideas already formed takes place according to fixed laws, and not at random.

* It is worth noting that the a posteriori school does not go with the "sensationalists", like Locke and Condillac, nor does it go with the "rationalists", such as Descartes and Leibnitz, nor with the "critics" like Kant.

(125) (i) Bradley, F.H., "Association and Thought" MIND,
Vol XII, No. 46, (1887) p. 381.

(11)Bain, A. The same vol. "On Association", pp 161ff;

(11i)Brett, S. "Associationism and Act Psychology"
Psychologies of 1930, ed by Carl Hutchison,
Worcester, Mass., Clark Univ.

CHAPTER II

THE RISE OF EVOLUTIONARY AND COMPARATIVE

PSYCHOLOGY.

1. The Concept of Evolution and Scientific Thought
Before Darwin.

The concept of evolution has come to be well established ever since Charles Darwin (1809-1882) published his Origin of Species in 1859. The Darwinian theory, which was epoch-making, has now its own implications in modern psychology. Undoubtedly, the evolutionary speculations are deeply rooted in the history of philosophy. In the second half of the nineteenth century such speculations became firmly supported by factual evidence available in Darwin's writings.⁽¹⁾ The evolutionary movement, as explained by Darwin, is regarded as "a new and luxurious shoot"⁽²⁾ which has its roots in "the same soil as old empiricism".

(1) (1) L.S.Hearnshaw, op.cit., p.32.

(11) E. Heidbreder, op.cit., pp.105-106.

(111) Wm. McDougall, "Mental Evolution" in Evolution in the light of Modern Knowledge, London, (1925), pp.321-322.

(2) (1) R.Metz, op.cit., p.95.

(11) J.B.S.Haldane, The Causes of Evolution, London, Longman's (1932), pp.1ff.

(111) J.C.Flügel, A Hundred Years of Psychology, op.cit., p.113.

(1v) Alfred Russell Wallace, Darwinism, London, MacMillan, (1889), pp.3ff.

In the field of philosophy evolution came from Herbert Spencer, who anticipated Darwin's position. In the field of special sciences it belongs to Charles Darwin and Alfred Russell Wallace. In a joint paper in 1858 they took the biological world by surprise in announcing the modification of species by natural selection. The general point of interest is that the alliance which philosophy now entered into with biology proved to be as fruitful as that which was forged between mathematics and physics at the time of Descartes and Newton. Philosophers now appropriated and employed the results of the special sciences, and scientists passed beyond the boundaries of their enquiries to the general philosophical consequences of these. The picture seems to be as Metz put it, "the forces of evolution marching as it were in two columns, at first separately, later united".⁽³⁾ Before considering Darwin's essential influence on Psychology today, the question is : What is meant by evolution, and how has it come to have a weighty impact on life as a whole ?

(3) (1) Metz, R., op.cit., p 95 ; see also :

(11) Merz, J. Th., History of European Thought in the XIXth Century, London, Blackwood, (1896), Vol 3, p 461.

Previous to the Darwinian age, Lamarck (1744-1829) tried to prove that all animals are descended from other species of animals. He attributed the changes of the species chiefly to the effect of changes in the conditions of animals' life - such as climate and food. He also ascribed the change to the desires and efforts of those animals themselves to improve their own conditions and to modify their own form or size. In so thinking, Lamarck seems to have been led by the well-known physiological law that all organs are strengthened or weakened according to their use or disuse. Despite the fact that such a view was adopted by some, yet the argument did not satisfy the majority of naturalists. Lamarck's other argument that acquired characteristics are transmissible⁽⁴⁾ from one generation to another was met with much scepticism. The main disadvantage of Lamarck's theory was that it was largely assumption; it was unsupported by any factual evidence. Moreover, subsequent experimental studies, such as those by McDougall, and based essentially on some of Lamarck's hypotheses, yielded no satisfactory results.

(4) (1) Wallace, A.R., Darwinism, op.cit, pp 3-4.

(11) _____, Natural Selection and Tropical Nature, London, MacMillan (1870), pp 31-32.

Anyhow, prefacing The Origin of Species (1859), Darwin credited Lamarck with "the eminent service of attention to the probability of all change in the organic, as well as in the inorganic world, being the result of law, and not of miraculous interposition". Yet Darwin equally discarded as "nonsense" Lamarck's ascription of evolution to the organism's "needs" which stem from "inner feelings". Darwin believed that, by so thinking, Lamarck had precluded the kingdom of plants.

It was argued at the time, chiefly by Robert Chambers in : Vestiges of Creation,* that the various species of animals and plants had been produced in orderly succession from each other by the action of unknown laws of development, aided by the action of external conditions. This view is judged to be as of little influence upon naturalists.⁽⁵⁾ Prior to both Lamarck and Robert Chambers, Erasmus Darwin (1731-1802) was mentioned for his evolutionary views,⁽⁶⁾ as already indicated.

* No date of publication has been given by A.R.Wallace; Hearnshaw gives the year (1844), op.cit. p.32

(5) Wallace, A.R., Darwinism, op.cit. pp 4-5.

(6)(1)Hearnshaw, L.S., op.cit. p 32.

(11) Merz, J.Th., Vol. 4, pp 235, 515 ff.

(111)Smith, Sydney, Elementary Sketches of Moral Philosophy, Lectures delivered at The Royal Institute in the years 1804, 1805, 1806; London, Longman, (1850), pp 251 ff.

Alfred Russell Wallace, proponent of the theory of natural selection, believed⁽⁷⁾ that there is a tendency in nature to the continued progression of certain classes of varieties from the original type. In Wallace's view, this progression follows "minute steps" in various directions; with Lloyd Morgan it is always "step-like or jumpy",⁽⁸⁾ and that each step is accompanied by new qualities and properties that characterise the new entity which leaps into being without loss of some of its old traits. This step-like advance is what Lloyd Morgan later called "emergent evolution". H.S. Jennings who saw that "evolution is never closed",⁽⁹⁾ distinguished between mechanical evolution and emergent evolution. According to the first, the universe is a physico-chemical mechanism, operating with invariable laws, its entire operation calculable

(7) Natural Selection, op.cit. p 33.

(8) (1) Conway Lloyd Morgan, "Emergent Evolution" MIND, N.S., Vol XXXIV, No. 133, January (1925), p.71

(11) _____, "Biology" Evolution in the Light of Modern Knowledge, A collective work, London, Black and Co., (1925), p.108

(111) _____, Emergent Evolution, The Gifford Lectures, Vol.I, London, Williams Norgate (1923), pp 2-3.

(9) The Biological Basis of Human Nature, London, Fabre and Fabre (1930), pp. 268, 361-363, 363-371.

in advance. Further operations, further existences, are as definitely determined as are present and past ones. All that is called mental has no influence on the course of events. Things which are mental have no role in the operation of the universe, no role in evolution. The typical doctrine of emergent evolution holds that new properties and modes of action appear when the steps are made from atoms to molecules, from simple molecules to complex ones, from inorganic to organic. It holds too, that the properties of living things depend on those of their physico-chemical constituents when the latter are in living things; the activities of the thinking beings are the action of their physiological constituents when the latter are part of a thinking being; the activities of societies are those of their unit individuals when those individuals form part of society.

The theory of evolution appeared to Henry Sidgwick⁽¹⁰⁾ as exclusive of special creation; there is here a hint that Sidgwick is referring to Spencer's notion that there should be a choice between two hypotheses - the hypothesis of special creation and the hypothesis of evolution. Sidgwick's interest in

(10) "The Theory of Evolution in its Application to Practice"
MIND, Vol I, No.I, January (1876), p 53. See also :

F.Pollock, "Evolution and Ethics" MIND, Vol I, No.3, (1876),
p.337.

evolutional theory, however, was an ethical one. William Morton Wheeler thought that evolution was concerned and mainly connected with mental affairs.⁽¹¹⁾ So did William McDougall⁽¹²⁾ and Lester F. Ward.⁽¹²⁾ Different names by different thinkers have been suggested for different aspects of the theory of evolution, such as "emergent evolution" (L.Morgan), "evolutionary naturalism",⁽¹³⁾ (R.W.Sellers), "creative synthesis"⁽¹⁴⁾ (E.G.Spaulding), "emergent vitalism" (C.D.Broad), "organism" (J.Henderson).⁽¹⁵⁾ These various modes of emphasis, however,

(11) "Emergent Evolution and the Social Factor," Psyche Vol.VII, No.3, January, (1927) p.28

(12) "Mental Evolution" Evolution in the Light of Modern Knowledge, op.cit. pp 321ff.

(13) (1) MIND Vol IX, No.36, October, (1884), p. 563.

See also: (11) H.W. Carr and G.D.Hicks in a symposium on "The Nature and Range of Evolution", in Aristotelian Society, Vol II, No. 4, (1894) pp 132-151.

(111) G.Elliot Smith, "Anthropology" Presidential Address in : Rep.Brit.Asso. (1912), pp 575-598.

In this paper Smith began his talk on evolution and the connotations this word involves.

(14) Evolutionary Naturalism, Chicago and London, (1922).

(15) The New Rationalism, N.Y. (1918).

have "familiarised us with the notion of spontaneous variations in animals and plants. This phenomenon is also found in Psychology - in the intellectual order, in the emotional order, in the order of action".⁽¹⁶⁾ Both Spencer and Darwin⁽¹⁷⁾ formulated the doctrines of the "survival of the fittest" and "natural selection", which are now admitted by all.⁽¹⁸⁾ As Darwinism was in the air there came neo-Darwinism which has recently been re-named "the synthetic theory".⁽¹⁹⁾ The new-Darwinism is purified by the elimination of Lamarckism. It

(16) (1) William Morton Wheeler, op.cit. p.28

(11) _____, Social Life among Insects, N.Y. (1923).

(17) Th.Ribot, The Psychology of the Emotions, Eng. trans, London, Walter Scott, (1897) p.193.

(18) (1) Harold Hoffding, Modern Philosophers, London, Macmillan, (1920), p. 229

(11) J.Mark Baldwin, "Determinate Evolution" Psych.Rev., Vol IV, No.4, July (1897) op.cit., p.393

(111) D.G.Ritchie, "Darwin and Hegel" The Aristotelian Society, Vol.I, No.1, (1891) p.57

For further reading see J.Th.Merz, Vol.2 and Ch.VI of Vol.3 both op.cit.

(19) Grene, Marjorie, "Two Evolutionary Theories" part I, The British Journal for the Philosophy of Science, Vol IX, (1958-9), pp 110-127. See also : discussions by different writers of the paper above, the same Journal Vol.XIV (1963-4), pp. 140ff, 146ff.

teaches that selection alone, or the principle of survival of the fittest in the struggle for existence, is the sole principle of organic evolution. The terms "selection" and "struggle", as used by the new school, are just metaphors. This school, which was led by August Weismann,⁽¹⁹⁾ left no more scope for the operation of intelligent purpose. Perhaps this was the major reason why McDougall disagreed with its teachings entirely. Despite all this, in its essentials, the new movement is still Darwinism. The two movements - original Darwinism and its derivation - seldom disagree about the facts discussed.

2. Darwinism and Its Impact on Comparative Psychological Studies.

Darwin's conception of evolution was reached as a result of his own observations and researches in natural science. The greatest advance he made was by putting forward sufficient evidence proving that the entire world of living

(19) (1) McDougall, Wm. "Mental Evolution" in Evolution in the Light of Modern Knowledge, op.cit, pp 327-8.

(11) Weismann, August, Essays Upon Heredity, Oxford, Clarendon Press, (1889), pp 316-385.

things is part of one order of existence. This order is called "Nature".⁽²⁰⁾ His view is that animals and plants now existing have arisen by transformation from previously existing kinds. The origin of man is subject to this law.⁽²¹⁾ One of his most positive statements was : "As soon as I had become, in the year 1837 or 1838, convinced that species were mutable productions, I could not avoid the belief that man must come under the same law".⁽²²⁾ Darwin's specific statements show that species (the human species is included), had been created naturally; natural selection had been the chief agent of change. In the days before Darwin, evolution was merely "a wild speculation"⁽²³⁾ as McDougall described it.

(20) See: Ritter, William Emerson, Charles Darwin and the Golden Rule, Washington, Science Services, (1954,) Ch.5

(21) De Beer, Sir Gavin, "Charles Darwin: Master Mind" Proc.Brit.Academy, Vol XLIV, (1958), pp 163-183.

(22) Darwin, Francis, The Life and Letters of Charles Darwin, 2 vols, (1898). New York, Appleton, Vol I, pp 75ff.

(23) An Outline of Psychology, London, Methuen, (1923), p.129.

See also:

(1) Jevons, Frank B., Evolution, London, Methuen (1900), pp 75ff.

(11) Rignano, Eugenio, Biological Memory, London, Kegan Paul, (1926), pp 26ff. 122ff.

The attempt Darwin made was to explain the process by which the totality of things has come to be what it is. It differs from most other attempts in its success in giving a scientific explanation of the process. Probably this is why evolutionism and Darwinism are firmly believed to be synonymous.⁽²⁴⁾ More important still is that Darwin wrote at a time when the intellectual world was just becoming ready to consider, and eventually to accept, the considerable change in philosophical outlook. "But it was in the first place its common sense, down-to-earth quality which gave Darwin's Theory its impetus towards winning agreement,"⁽²⁵⁾ said Waddington who also cited G.G.Simpson as saying "How very silly we were not to have thought of that ourselves".

As it is well known, the title of Charles Darwin's great work was On the Origin of Species by Means of Natural Selection and the Preservation of Favoured Races in

(24) (1) Waddington, C.H. "Theories of Evolution" in A Century of Darwin, ed. by Barnett, S.A., London, Herman, (1958), p.1

(11) Murphy, G., op.cit., p 11.

(25) C.H. Waddington, op.cit., pp 1-2, The quotation Waddington has taken from Simpson's : The Meaning of Evolution (1949).

The Struggle for Life (1859); and the context in which his evolutionary theory was first presented was that of the doctrine of the constancy of species. In this book Darwin brought together vastly more factual material than had been previously assembled. His main contribution was to suggest a plausible mechanism by which the changes might be produced. He found the clue in the work of Thomas R. Malthus (1766-1834) who, in his noteworthy Essay on the Principle of Population (1798), had argued that man would always tend to increase in numbers to the limit set by the amount of foodstuffs which he could produce from the region he inhabited. No sooner did Darwin formulate his theory than it was accepted almost at once by T.H. Huxley (1825-1895) and other leading biologists. (26)

Darwin consistently kept saying that in the life of the organism there are two factors, namely, "the nature of

(26) (1) C.H. Waddington, op.cit pp 3ff.

(11) A.R. Wallace, Darwinism, op.cit, pp 1-2.

(11.1) _____ Natural Selection, op.cit. Chapter II.

(1v) Thomas H. Huxley, Lectures and Lay Sermons, London, Dent, (1910) last reprinted (1926), pp 99-114.

(v) C.D. Darlington, in his introduction to The Origin of Species, pp XV, XVI, XIX.

the organism" itself, and "the nature of the conditions". The former is more eminent from his standpoint. Every organic being is said to be striving "to the utmost to increase in numbers; that each lives by a struggle at some period of its life".⁽²⁷⁾ Several writers have misapprehended or objected to the term "Natural Selection",⁽²⁸⁾ a term Darwin substituted for "the Principle of Preservation" for the sake of brevity.⁽²⁹⁾ He maintained that all organic beings have been formed on two great laws - "Unity of Type" and "The Conditions of Existence". By unity of type Darwin meant that fundamental agreement in structure which is seen in organic beings of the same species, and which is quite independent of their habits of life. On Darwin's theory, unity of type is explained by unity of descent. By the conditions of existence he meant that the adaptations were aided in many cases by the increased use or disuse of parts, being affected by the direct action of the external growth and variation; the law of the conditions of existence Darwin considers as "the higher law".⁽³⁰⁾

(27) The Origin of Species, London, John Murray, (1859) last reprint 1920, pp 6-57.

(28) ibid, p 58.

(29) ibid, p 111.

(30) ibid, p 156.

Darwin's⁽³¹⁾ book, described as "the pilot balloon to a greater machine",⁽³²⁾ is devoted to show that not one living species will transmit its unaltered likeness to a distant futurity.⁽³³⁾ The world of animals is contemplated as engaged in one vast unceasing struggle for existence. All organic beings are exposed to severe competition, either of one individual with another of the same species, or with individuals of different species, or with the physical conditions of life. Here occurs the doctrine which Malthus applied to the whole animal and vegetable kingdoms.⁽³⁴⁾

The impact of Darwin's theory on Psychology during the last quarter of the XIXth Century probably did as much as any other single factor to shape the science as it exists today.

(31) (i) The Origin of Species, op.cit. pp 300ff.

(ii) The Athenaeum, November, (1859) pp 659-660.
A note on "The Origin of Species".

(iii) T.H.Huxley, "The Darwinian Hypothesis" in The Times,
December 26, (1859).

(32) The Athenaeum, op.cit p 660.

(33) The Origin of Species, op.cit, Ch IV, pp 57ff.

(34) The Athenaeum, op.cit, p 659.

Psychology was certain to become consistently more biological. Mental processes tended more and more to be stated in terms of the functions served in the task of adjusting to the world,⁽³⁵⁾ The Darwinian theory has its own implications in psychology; it taught that man must not be considered as an isolated element of his environment, but in relation to the many forces that mould him. Darwin gave psychology another pattern after it had been moulded in terms of mechanistic nature under other influences.⁽³⁶⁾

Again, Darwin's specific contribution to child psychology was a specimen of his method in the study of one of his own infants. He observed⁽³⁷⁾ that during the first seven days various reflex actions, such as sneezing, yawning, stretching, besides sucking and screaming, were well performed by his son. On the seventh day, Darwin touched the naked sole of the infant's

(35) (1) G. Murphy, op.cit, pp 113-116.

(11) Brett's History of Psychology, op.cit, p 585.

(111) J.C. Flugel, op.cit, p 113.

(36) Heidbreder, E. op.cit, pp 105, 106.

(37) Brett's History of Psychology, op.cit, p 638.

foot with a piece of paper, and the infant jerked it away, curling his toes at the same time, "like a much older child when tickled". On Darwin's view, "The perfection of these reflex movements shows that the extreme imperfection of the voluntary ones is not due to the state of the muscles or of the co-ordinating centres, but to that of the seat of the will. At this time, though so early, it seemed to me that a warm soft hand applied to his face excited a wish to suck. This must be considered as a reflex or an instinctive action, for it is impossible to believe that experience and association with the touch of his mother's breast could so soon have come into play".⁽³⁸⁾

Darwin's observations showed that the wants of an infant are at first made intelligible by "instinctive cries", which after a time are modified in part unconsciously, and in part, voluntarily as a means of communication, - by the unconscious expression of the features, - by gestures and in a marked manner by different intonations, - lastly by words of a general nature intended by himself, then of a more precise

(38) Charles Darwin, "A Biographical Sketch of an Infant"

nature imitated from those whom he hears.⁽³⁹⁾ Darwin believed that an infant can understand at a very early period, the meaning or feelings of those who tend him, by the expression of their gestures.

In the Descent of Man and Selection in Relation to Sex (1871), Darwin stressed the similarity between the mental processes of man and those of animals; he emphasised the importance of sexual selection as a further factor in evolution. To the higher life of social and moral conduct, Darwin made a significant contribution in this book. His chapters on the "Comparison of the mental powers of man and the lower Animals" laid a strong and broad foundation for all the work which has subsequently developed knowledge of animal societies, human societies, and of the relations between these in reference particularly to the part played by instinct. According to Darwin, all animals feel "wonder" and exhibit "curiosity". The principle of "imitation" is strong in man, and especially with the savages.⁽⁴⁰⁾

(39) ibid, pp 293, 294.

(40) (1) The Descent of Man and Selection in relation to Sex, (1871) last publ.(1922), pp 108,110,319,371.

(11) C.M. Williams, Evolutional Ethics, London, Macmillan, (1893) pp 2-12.

Darwin suggested, in The Expression of the Emotions in Man and Animals (1872), an evolutionary interpretation of the changes of features and of posture that are characteristic of the major emotions. The three main principles which Darwin thought as accountable for most of the involuntary expressions and gestures used by man and the lower animals are: (1) The principle of serviceable associated habits - certain complex actions are of direct or indirect service under certain states of the mind, in order to relieve or gratify certain sensations, desires, etc. (2) The principle of Antithesis - certain states of the mind lead to certain habitual actions, which are of service, as under the first principle. (3) The principle of actions due to the constitution of the nervous system, independently from the first of the will, and independently to a certain extent of Habit.⁽⁴¹⁾

Although these two books together with his Biographical Sketch of an Infant are perhaps the most psychologically oriented of all his writings, Darwin never lost sight of the importance of mental factors in evolution. The

(41) (1) Darwin, The Expression of the Emotions in Man and Animals, (1872), p 28; see also :

(11) Young, P.T., Emotion in Man and Animal, New York, J. Wiley and Son (1943).

elements of his doctrine - natural selection, the survival of the fittest, adaptation to environment, the inheritance of favourable characters, and so on - had been in various ways anticipated in earlier research and speculation, but the gathering of them together into a single impressive picture of the origin and development of living creatures was Darwin's remarkable achievement. Darwin's influence on psychology, therefore, "extended, indeed", to quote Hearnshaw, "far beyond the special field of comparative psychology. He introduced a new way of looking at mind, as something functional and dynamic, as something deeply involved in the struggle for existence and the process of adaptation to the environment. He pointed to the significance of individual differences and inherited variations, and thus opened the way for the development of differential psychology". (42)

Another and interesting thinker on evolution, one whose life and work overlapped that of Darwin, was Herbert Spencer (1820-1903), of whom in 1923 William McDougall

(42) A Short History of British Psychology, op.cit, p 40.

See also : Thilly, History of philosophy, op.cit,
p 542ff.

could write "the forlorn figure of Herbert Spencer".⁽⁴³⁾ Spencer's ideal of knowledge is that of a completely unified system of thought. Knowledge must be connected and consistent. Science furnishes us with partially unified knowledge; Philosophy is completely unified knowledge; an organic system: its problem is to discover the highest truths from which the principles of mechanics, physics, biology, sociology, and ethics can be deduced. All these propositions must be in harmony with one another. In the First Principles (1860-1862), which forms the basis of the entire system, the fundamental axioms are set forth, which are afterward applied in the Principles of Biology (1864-1867), Principles of Psychology (1855), Principles of Sociology (1876-1896), Principles of Ethics (1879-1893). Spencer calls his philosophy "synthetic philosophy", whereby is meant the function of such a universal science to combine into a consistent system the universal truths arrived at by the particular sciences.⁽⁴⁴⁾ Spencer dominated

(43) An outline of psychology (1923), op.cit., p 29.

(44) (1) Thilly, op.cit., p 535ff.

(11) C.M.Williams, Evolutional Ethics, (1893),
op.cit. pp 28ff.

the philosophical field in England in the last few decades of the XIXth Century in much the same way as Mill, Hamilton, Bentham, Reid, and Hume had done in their day. He is one of the few British philosophers whose fame spread beyond Britain in their own lifetime. Indeed, he acquired a universal reputation and his works were translated into nearly all the languages of developed peoples.⁽⁴⁵⁾

Naturalistic evolutionism found its specifically philosophical embodiment in the system which Spencer formulated and was the culminating point. It was Spencer who brought to a focus the several lines of thought released by the Darwinian Theory and skilfully worked them up into an impressive philosophical system. As an "evolutionist Spencer was in fact first in the field."⁽⁴⁶⁾ In his article on The Development Hypothesis in 1852, Spencer advocated development by successive modifications rather than special creation, and put forward a Lamarckian explanation in terms of the inheritance of acquired characteristics.⁽⁴⁷⁾

(45) (1) R. Metz : op.cit, p 98ff.

(11) C.M.Williams, op.cit, pp 48ff.

(111) H.C. Warren, op.cit, pp 121ff.

(46) L.S. Hearnshaw, op.cit, p 40.

(47) (1) ibid pp 40-41.

(11) Th.Ribot, English Psychology, op.cit, pp 134-139.

Spencer accepted the associative principle which was current at his time. He noted various phases in the process of evolution which affected the psychology of association: (1) concentration, as in the formation of a cloud, and in the sand-heap; (2) differentiation, on the separation of the mass from its environment, and the formation of special masses within it; (3) determination, the formation of the differentiated parts into a unified, organised whole. All the three parts are subsumed under : Law of Evolution.⁽⁴⁸⁾ The evolution[^] psychology, as worked out by Spencer, is based essentially on the biological analogy. It is "mechanical" only in the widest sense of the term - not physical, like the associationism of James Mill and Bain, nor chemico-physical, like that of the other earlier associationists, but bio-chemical and physical.⁽⁴⁹⁾

Spencer analysed the components of mind into "feelings" and "relations between feelings". "A feeling

(48) Thilly, op.cit., p 541.

(49) H.C. Warren, op.cit. p 120.

cannot form an element of mind at all"⁽⁵⁰⁾ except that it is associated with predecessors which are more or less the same in nature. By composition of the relations and ideas of the relations, intelligence arises. By composition of feelings and ideas of feelings, emotions arise.⁽⁵¹⁾

Association according to Spencer involves two problems (1) the association of feelings, both vivid and faint; (2) the association of the relations between feelings.⁽⁵²⁾ Consciousness is divided into two classes - feelings and cognitions, the latter being states which correspond to the relations of feelings. The former consist of (1) presentative feelings, or sensations; (2) presentative-representative feelings, embracing a great part of what are commonly called emotions; (3) representative or ideational feelings; and (4) re-representative feelings, the most complex states of all, which include the higher

(50) Herbert Spencer, The Principles of Psychology, London, Longman (1855) pp 584-592, 1st ed. in one volume; 2nd ed, 1870, essentially re-written, in two volumes; 3rd ed, enlarged, 1880.

(51) ibid p 104. See also C.M. Williams, op.cit, p 51.

(52) (1) ibid 1st ed, pp 584ff; 3rd ed p 104ff.

(ii) see also : Hoffding: Vol II, op.cit, p 462ff.

sentiments, such as justice.⁽⁵³⁾

Important in its bearing on the law of association is Spencer's discussion of co-existence and succession. He regards association as the revival of similar experiences. To this he adds the relation of experiences, which is "The conjuncture of contiguous " experiences. In the higher manifestations of consciousness this contiguity tends more and more to the form of succession, with corresponding loss on the side of co-existence. He starts with "reflex action" as the lowest form of psychical life; it is the "most nearly related to physical life".⁽⁵⁴⁾ The next higher form, "instincts", includes compound reflex actions. Memory arises when the stimulus is so complicated that the nervous centre cannot receive all the impressions at the same instant.⁽⁵⁵⁾

(53) (i) ibid, 3rd ed, pp 104-5.

(ii) see also : Hearnshaw, op.cit, pp 43-44.

(iii) H.C.Warren, op.cit, pp 121-124.

(iv) Herbert Spencer, "Comparative Psychology of Man"
in MIND, Vol I, No 1, (1876).

(54) First Principles of Psychology, pp 105, 108, 109.

(55) ibid pp 108-109.

It is true, Spencer's psychology was "a prolegomenon to other studies",⁽⁵⁶⁾ as Hearnshaw has observed. Spencer's earliest and most enduring interest was in ethical questions. Throughout the data of ethics, as throughout every ethical treatise, ends are constantly in view.⁽⁵⁷⁾ Spencer was of the opinion that the sciences of biology, psychology, and sociology show us, in the first place, a supreme or ultimate end to the realisation of which human actions are universally or normally directed; such sciences enable us, in the second place, to determine the kind of conduct by which this end may be attained in the highest possible degree.⁽⁵⁸⁾ Sidgwick later cited with approval Spencer's definition of conduct as "the adjustment of acts to ends".⁽⁵⁹⁾

(56) A Short History of British Psychology, op.cit., p 45.

(57) Herbert Spencer, "Replies to Criticisms on the Data of Ethics" in MIND, Vol VI, No.21, January (1881) p 83.

(58) Henry Sidgwick, "Mr Spencer's Ethical System", MIND Vol V, No.18, April, (1880) p 217.

(59) ibid, p 217; see also this volume, No.20, "Another view of Mr.Spencer's Ethics" by Alfred W. Benn, pp. 489-512.

The higher manifestations of mind are regarded as associations and relations of lower forms of manifestations, very much as Hartley and the Mills regarded them.⁽⁶⁰⁾ Although Spencer was not a trained psychologist, his psychological writings, however, must be appreciated in "The breadth and magnificance of Spencer's vision".⁽⁶¹⁾

The most important representative of evolutionism after Spencer is George Henry Lewes (1817-1878). He belongs as much to literature as to philosophy. He is well known in philosophy and psychology for his Biographical History of Philosophy (1845-6), reprinted (1857), The History of Philosophy, last print (1880) - 2 vols - Physiology of Common Life (1859-60), and a series of volumes entitled : Problems of Life and Mind (1874-9). This last work develops in detail the writer's views of the nature of mind and his system of psychology. He came under the

(60) (i) H. Spencer: Principles of Psychology, op.cit., 1st ed, pp 504, 533, 539.

(ii) H.C. Warren, op.cit., pp 168-172, 121-137.

(iii) L.S. Hearnshaw, op.cit. pp 42-45.

(iv) Harold Hoffding, op.cit., pp 452ff. Vol II.

(61) J.C. Flügel, op.cit. p 116.

influence of Spencer after he had been for some time affected by Combe's system. In the end he went his own way. (62)

Lewes's arguments covered biological and psychological as well as philosophical matters. His discussions teemed with "ideas, many of them important", but as a whole they lacked "consistency and compactness". (63) It was he who coined the term "metaphysical" for that which lies beyond experience. Yet he did not deny altogether metaphysical problems a place in philosophical speculations.

In the psychological field Lewes's studies were of uncertain nature. Yet from time to time he was "acclaimed and re-discovered". (64) "Lewes", writes Warren, "deserves far more study than has been accorded him by recent writers; and especially does he deserve the attention of genetic psychology". (65) The same view was held by both Sully and Lloyd Morgan.

(62) (1) L.S. Hearnshaw, op.cit., p 46.

(11) R. Metz, op.cit., p 120.

(111) H.C. Warren, op.cit., pp 137-8.

(63) R. Metz, op.cit., p 120.

(64) L.S. Hearnshaw, op.cit., p 46.

(65) H.C. Warren, op.cit., p 152; it is also quoted by Hearnshaw on p 46.

Lewes's evolutionary associationism is to be found in Volume V of : Problems of Life and Mind. Though not complete in its exposition, it comprises most of the essential points of his psychology, and corrects many of his earlier inconsistencies. Hearnshaw ascribes the reason why Lewes has been passed into oblivion "to the fact that Lewes' principal psychological work, Problems of Life and Mind (1874-9), appeared later in time, when the British empirical tradition was on the point of being submerged in the idealistic flood". Again, as he ascribes it partly to "a result of the inadequacy of the labels with which Lewes has been marked".⁽⁶⁶⁾ He has been described by Ward as a materialist, by Warren an associationist, by Ribot a positivist, by Metz an evolutionist.⁽⁶⁷⁾ A more important reason for Lewes's neglect is perhaps that he was "repetitious, verbose, and unsystematic".⁽⁶⁸⁾

Hearnshaw's argument here does not seem to be defensible enough. "The idealistic flood" at Lewes's time

(66) L.S. Hearnshaw, op.cit, p 46

(67) (1) ibid, p 46.

(11) R. Metz, pp 120ff.

(68) Hearnshaw, op.cit, p 46.

was never stronger than it had been at the time of, say, Berkeley or Hartley. Both these writers, as it is now known, introduced some psychological views which are still appreciated and recognised. In Lewes's case it appears to be (1) that he was deeply indulging in philosophical realms so that he was distracted from considering purely psychological questions; (2) that he tried to grope with many fields that were of a general nature instead of concentrating on specific psychological issues; and (3) perhaps he did not have the bent for such disciplines as psychology, despite the fact that he sometimes discussed it. X

"Psychology is the science of Mind", writes Lewes. "This science may seek ... important means of investigation in the laws of physiology, ... physiology itself must seek important aids in chemistry and physics. But as an independent branch of inquiry, its results cannot be amenable to physiological canons; their validity cannot be declared by agreement or disagreement with physiological laws. To cite an example : Psychology announces that the mind has different faculties. That fact seems established on ample evidence, and is valid in psychology, although hitherto no corresponding fact in physiology has been discovered". (69)

(69) (1) G.H.Lewes, Physiology of Common Life (1859) pp.2,3
it is also cited by Th.Ribot : English Psychology,
p.292.

(11) _____ The Study of Psychology, London, Kegan Paul,
(1890) pp.5, 158ff; the book was published posthumously.

Lewes concedes independence to the two sciences, although he insists upon their relation. Nevertheless, the foundations of his psychology have both biological and physiological aspects.⁽⁷⁰⁾ Lewes' psychological doctrines are to be embodied under : (1) of the nature of life, and X of the vital principle; (2) of consciousness and of its forms; (3) of sleep; and (4) of heredity from a psychological point of view.⁽⁷¹⁾ The theory of consciousness in particular had a prominent place in Lewes' psychology. He examined the question of latent or insensible perceptions, and he distinguished a variety of such perceptions in the hierarchy of consciousness.⁽⁷²⁾

In Lewes's view there are no natural boundaries between psychology and physiology. Nevertheless, he emphasised their independence, as mentioned above. No doubt a purely physiological act, such as circulation, differs entirely from a purely psychological act, such as deductive

(70) L.S. Hearnshaw, op.cit., pp 48, 49.

(71) Th.Ribot, op.cit., p 292.

(72) (1) G.H.Lewes "What is Sensation?" MIND, Vol 1, No.2, April 1876, p 157.

(ii) Th.Ribot, op.cit., pp 296ff.

(iii) James Sully, The Human Mind, A text-book of Psychology, London, Longmans, 1892, Vol I, p 70 footnote;

(iv) _____, Outlines of Psychology, London, Longmans (1898)

reasoning, but there is an entire order of facts, insensible perceptions, reflex actions, instincts and the like, by means of which the two lines mingle and are confounded. (73)

In summary, however, the main features of Lewes's psychology are :

1. He tried to frame the concept of biological evolution with his own discussions.
2. He formulated the grouping (or associative function) of mental phenomena.
3. He indicated that images are individual and specific.
4. He pointed out that ideas are both general and abstract.
5. Images imply memories and imagination, and ideas imply judgements and reasoning.

Generally, Lewes's associative psychology is akin to modern philosophy which "opens with a method, and ends with a method; and in each case this method leads to positive science, and sets metaphysics aside". (74)

(73) (1) G.H. Lewes, Problems of Life and Mind, Vol II, pp 44ff.

(11) Th. Ribot, op.cit, pp 301ff.

(74) (1) Lewes, G.H., Biographical History of Philosophy, op.cit, p 663.

(11) Warren, H.C., op.cit, pp 138-152, 172-175.

(111) Hearnshaw, L.S. op.cit, pp 51-53.

3. Other Contemporaries of Darwin.

An immediate consequence of the formulation of mental evolution, prompted by Darwin's influence, was a more active study of the mental life of animals. This was associated with a quickening of interest in Psychology in general, especially in comparative psychology. In this movement, George John Romanes (1848-1894) led the way, and was followed by many others. Romanes was the most systematic comparative psychologist of his age. He experimented and collected detailed observations. He also "attempted to map the territory of animal psychology descriptively and theoretically".⁽⁷⁵⁾ Although he was designated as an "anecdotalist", mainly because of his popular writings, most of his views are comparable with those of Darwin, T.H.Huxley, H.Spencer, G.H. Lewes, F.Galton, and other leading scholars.⁽⁷⁶⁾

In a lecture on "Animal Intelligence"⁽⁷⁷⁾ Romanes pointed out that the interest in those days attaching to the

(75) Hearnshaw, L.S. op.cit, p 92.

(76) (i) ibid, p 92.

(ii) See also : "Mental Evolution" in Evolution in the Light of Modern Knowledge, op.cit, p 324.

(77) Delivered in the Hulme Town Hall, Manchester, March 12th, (1879), p 151. (pamphlet).

study of animal intelligence arose from the importance of "descent"; for as this theory was - and still is - accepted, comparative psychology, like the science of comparative anatomy, was placed on a completely new foundation. No longer was it enough to say that a certain action of an animal was determined by instinct, and other acts were beyond the reach of further explanation. Now the very thing to be explained was the character and origin of instinct, "the causes which led to its development, its continuance, its precision, and its use". No longer was it enough to consider the instincts manifested by one animal as an isolated body of phenomena, devoid of any scientific meaning. "The whole scientific import of instincts as manifested by one animal now depends on the degree in which they are connected by general principles with the instincts which are manifested by other animals". The marks of Romanes's observations can be realised in (1) the emphasis laid on evolutionary arguments in general; (2) the interest attached to the comparative studies of man and animals; (3) the considerable stress put on instincts as movers of behaviour both in man and animals.

Darwin's followers maintained that all organisms are alike products of a natural genesis. Wallace's followers

maintained that a distinct exception must be made to this general statement in the case of human mind. Thus the school of evolutionists was divided into two sects, according to one of which the mind of man slowly evolved from lower types of mental life; according to the other, the mind of man stands apart from all other types of mental life. In relation to these two factions, Romanes took a middle ground. He consented to allow that the mind of man differs from that of the lower animals only in the degree to which it is developed.⁽⁷⁸⁾

Romanes saw no reason why a distinction is to be made between human and animal psychology.⁽⁷⁹⁾ Yet the difference in mentality is obvious⁽⁸⁰⁾ only in the formation of ideas and benefiting from experience.⁽⁸¹⁾ He distinguished between two

(78) (i) ibid, p 152. cf. p 159.

(ii) A.R.Wallace, Darwinism, op.cit, pp 131, 139.

(iii) G.J.Romanes, Mental Evolution in Animals, London, (1883).

(79) G.J.Romanes, Mental Evolution in Man, London, Kegan Paul, (1888), p 13.

(80) ibid, pp 16-17.

(81) ibid, pp 20-21.

types of ideas, particular and general; the former include "percepts", whereas the latter refer to concepts.⁽⁸²⁾ He tended to show that conscious ideation is concerned with grouping.⁽⁸³⁾ He further classified ideas into⁽⁸⁴⁾: (1) simple ideas, or ideas of particular perceptions; (2) abstract ideas, or ideas of general quality; (3) these × latter class Romanes subdivided into (a) ideas which may be developed by simple feelings, and (b) ideas which can only be developed by the aid of signs. To Romanes ideas, however, are "the psychological units which compose the whole structure intellectual",⁽⁸⁵⁾ "in the mind of animals and in the mind of infants there is a world of images standing as signs of outward objects";⁽⁸⁶⁾ but the mind is not mature enough to move through "the higher and tenuous medium of

(82) ibid, p 23.

(83) ibid, pp 40, 59.

(84) G.J.Romanes, "Animal Intelligence", An Evening Lecture delivered before The British Association at Dublin, August 16, 1878; Published in : The XIXth Century, Vol. IV, No. XX, pp 653-672.

(85) ibid, p 655.

(86) Mental Evolution in Man, op.cit, p 196.

introspective thought". These are the views that James Sully also maintains.⁽⁸⁷⁾ This once again indicates Romanes' belief that both man and the animals have much in common.

In his Animal Intelligence (1882), Romanes presented a great mass of data on animal behaviour. By so doing, he laid the groundwork for a subsequent argument on the relation of animals to man. The book was written in the belief that comparative psychology is as important as comparative anatomy. In Mental Evolution in Animals (1883), Romanes endeavoured to indicate continuity among animal forms. Far from being a mere anecdotalist, he conducted an important experiment on "Jelly-fish", a research on a primitive nervous system. It was summarised in book-form in Jelly-fish, Star-fish and Sea-Urchins (1885). Basing his idea on the experiments he did, Romanes was able to suggest that "summation of stimuli"⁽⁸⁸⁾ might apply throughout Psychology. The fourth book, Mental Evolution in Man (1888), completed the series and was the most important from the point of view of the argument about evolution. His

(87) ibid, pp 201-3.

(88) Jelly-fish (1885) p 53; See also L.S.Hearnshaw, op.cit, p. 93.

general conclusion was that "simple ideas", like sensory impressions, perceptions and the memories of perceptions, are common to all animals and man; that "complex ideas", belong to some animals and to man; and that "notional ideas", the concepts of abstract and general thinking, are the "unique prerogative of man".⁽⁸⁹⁾ It was largely for using such terms that he was sometimes classed with Locke⁽⁹⁰⁾ and the other associationists; but his experimental and distinctive theoretical approach have assured him of a secure place in the history of Psychology.

Among the scientists who took to the new idea of evolutionism and elaborated it was Thomas Henry Huxley (1825-1895). Both he and Spencer⁽⁹¹⁾ were among the notable writers who ably defended Darwin against the storm of criticism following the publication of the Origin of Species. Huxley was a distinguished zoologist, and was probably the most important and most outspoken advocate of the new view of

(89) E.G. Boring, op.cit, pp 473-474.

(90) "Animal Intelligence" in : The XIXth Century, op.cit, p 670.

(91) (1) E.G. Boring, op.cit, p 471.

(11) R. Metz, op.cit, p 110.

the universe. He accepted Darwin's conception of the struggle for existence; but he was rather more sceptical of the doctrine of natural selection.⁽⁹²⁾

Huxley has been described as Darwin's "general agent", "bull-dog", and "knight-at-arms".⁽⁹³⁾ In his chapter "on the Reception of 'The Origin of Species',⁽⁹⁴⁾", he called Darwin the "Newton of Biology". He added, "the oldest of all philosophies, that of Evolution, was bound hand and foot and cast into utter darkness during the millennium of theological scholasticism. But Darwin poured new life into the ancient home; the bonds burst, and the revived thought of ancient Greece has proved itself to be a more adequate expression of the universal order of things than any of the schemes which have been accepted by the credulity and welcomed by the superstition of seventy later generations of men. The emergence of the philosophy of Evolution in the attitude of claimant to the throne of the world of thought, is the most portentous event of the nineteenth century".

(92) (1) J.Th. Merz, Vol III, op.cit., p 30.

(11) R. Metz, op.cit., pp 110-111.

(111) H.Hoffding, Vol II, op.cit., pp 445, 452.

(93) Basil Willey, Darwin and Butler, Chatto, London, (1960) p.33.

(94) T.H.Huxley, Collected Essays 9 vols., (1893-4), Vol II, Ch.5, also cited by B. Willey, op.cit., pp 33-34.

Huxley's admiration of Darwin's evolutionary theory never prevented him from turning a spot-light on a few points of Darwin's little pitfalls. That which struck Huxley most forcibly on his first perusal of The Origin of Species, was the conviction that "Teleology" as commonly understood, "had received its death blow at Mr. Darwin's hands".⁽⁹⁵⁾ For Huxley the teleological argument runs thus : an organ or organism (A) is precisely fitted to perform a function or purpose (B); therefore it was specially constructed to perform that function. For the notion that every organism has been created as it is and launched straight at a purpose, Darwin substitutes the conception of something which Huxley termed "a method of trial and error". "Organisms vary incessantly", Huxley argues; "of these variations the few meet with surrounding conditions which suit them and thrive; the many are unsuited and become extinguished".⁽⁹⁶⁾ According to teleology each organism is like "a rifle bullet fired straight at a mark", "according to Darwin", Huxley adds, "organisms are like grapeshot of which one hits something and the rest

(95) T.H.Huxley, Lectures and Lay Sermons; "Criticisms on The Origin of Species", op.cit, p.100.

(96) ibid, pp 100-101, see also : Cohen, Jonathan, "Teleological Explanation", Proc.Arist.Society, Vol LI (1950), pp 255-292.

fall wide". For the teleologist, an organism exists because it was made for the conditions in which it is found; for the Darwinian an organism exists, because out of the many natural variations, it is the only one which has been able to persist in the conditions in which it is found.⁽⁹⁷⁾

T.H.Huxley was among the first to focus attention on what he called "persistent types" - animals or plants which remain unchanged over enormous periods of time while the life around them is changing and evolving. Already in 1862 he wrote:⁽⁹⁸⁾ "In view of the immense diversity of known animal and vegetable forms, and the enormous length of time indicated by the accumulation of fossiliferous strata, the only circumstances to be wondered at is not that the changes of life have been so great, but that they have been so small". In 1870, he reviewed the whole subject. After pointing out that "so long ago as the Miocene epoch, every important group in every important order of Mammalia was already represented", he concluded, "the significance of persistent types, and the small amount of change which has taken place

(97) Huxley, Lectures, op.cit, p.101

(98) Huxley, Julian, Evolution in Action, Pelican ed., (1963), p.132.

even in those forms which can be shown to have been modified, becomes greater and greater in my eyes the longer I occupy myself with the biology of the past".⁽⁹⁹⁾ By persistence of type is meant the demonstration of the fact that natural selection can and does produce stability as well as change, and that the restriction of improvement is a commoner phenomenon than its continuancy. Two types of persistence Julian Huxley has distinguished : there is the persistence of a few survivors from a once abundant group which he called "living fossils", like the duck-bill platypus; and that of a whole successful group without reduction in numbers of species and without any important change in type, an example of this is the ants. Huxley spoke simply of what he called "persistent groups".⁽¹⁰⁰⁾

In the sphere of philosophy, Huxley brought about a close connection between evolutionism and the old tradition by going back to Hume, the "prince of agnostics", as he called him. With Hume he agreed in general and to some extent in particular. He accepted Hume's fundamental position that all real knowledge is confined to the world of experience.

(99) ibid, p 132.

(100) ibid, p 133.

Like Hume he had scepticism ingrained in his nature. Yet unlike Hume, he provided phenomenalism with a physiological and therefore materialistic foundation. According to Huxley all mental states or events are the effects of bodily causes, so that their origin and manner of functioning are comprehended by studying the changes of the nervous system. It was he who first characterised the mind as an "epiphenomenon", a phenomenal by-product of the brain.⁽¹⁰¹⁾ It is on this basis that his doctrine was decried as materialistic.

To the evolutionary theory of morals Huxley made a valuable contribution in his famous Romanes Lecture of 1893, Evolution and Ethics. Here while agreeing that the law of Evolution holds good in the sphere of moral action as in all other spheres, he maintained that in the moral it is realised in a quite different manner. The realm of the natural is dominated by an inexorable struggle for existence. But in the social life of man, for all its natural origin and its exposure to the pressure of natural forces, a realm sui generis emerges, a realm with its own uniformities and norms.⁽¹⁰²⁾

(101) R. Metz, op.cit., pp 111-112.

(102) T.H. Huxley, "Evolution and Ethics" the Romanes Lecture, in a book of the same title, pp 46-58.

"Man", Huxley writes, "the animal, in fact, has worked his way to the headship of the sentient world, and has become the superb animal which he is, in virtue of his success in the struggle for existence".⁽¹⁰³⁾ Huxley suspected the fallacy which appeared to him to pervade the "ethics of evolution", namely, the notion that men must look for their perfection at the struggle taking place in the world of animals and plants. He rather advised that men should be subject to the ethical process rather than the cosmic process; the end of the former is the survival of those who are ethically the best.⁽¹⁰⁴⁾

In this frame of mind T.H.Huxley wrote "Science and Morals" (1886), "The Struggle for Existence in Human Society" (1888), "Evolution and Ethics : Prolegomena" (1894), and his letters to The Times in December/January of (1890).

Another writer who revealed great interest in evolution, though he himself was not a devout evolutionist, was Samuel Butler (1835-1902), better known as a romantic novelist and writer than as a scientist. He wrote earnestly

(103) ibid, p 51.

(104) ibid, pp 79-83.

on behalf of the identification of memory with heredity. As Hearnshaw has said, "It would be a mistake to take Butler too seriously as a psychologist".⁽¹⁰⁵⁾

In his note-books, lately published in the : New Quarterly Review Vol.III, No.9, Butler summarised his work in biology:⁽¹⁰⁶⁾ "To me it seems that my contributions

to the theory of evolution have been mainly these,

"1. The identification of heredity and memory, and the corollaries relating to sports, the reversion to remote ancestors, the phenomena of old age, the causes of the sterility of hybrids, and the principles underlying longevity - all of which follow as a matter of course. This was 'Life and Habit' (1877)".

"2. The re-introduction of teleology into organic life, which to me seems hardly, if at all, less important than the 'Life and Habit' theory. This was 'Evolution Old and New' (1879).

"3. An attempt to suggest an explanation of the physics of memory. This was 'Unconscious Memory' (1880)⁽¹⁰⁷⁾.

(105) A Short History of British Psychology, op.cit, p 53.

(106) See preface to: Life and Habit (1878), although the original edition of "Life and Habit" is dated as above, the book was actually published in December, 1877.

(107) ibid pp VIII-IX.

Of all Butler's scientific ventures, Life and Habit, is perhaps the most important. Its theme has been summarised in Unconscious Memory: (1) The oneness of personality between parent and offspring; (2) memory on the part of the offspring of certain actions which it did when in the persons of its forefathers; (3) the latency of that memory until it is re-kindled by a recurrence of the associated ideas, (4) the unconsciousness with which habitual actions come to be performed. To these there has been added the purposiveness of the actions of living beings, as of the machines which they make or select. (108) X

In Life and Habit, which Butler regarded as "a valuable adjustment to Darwinism"⁽¹⁰⁹⁾, he contended that "our own progress - or variation - is due not to small, fortuitous inventions or modifications which have enabled their fortunate possessors to survive in times of difficulty, not, in fact, to strokes of luck, but to strokes of cunning to a sense of need, and to study of the past and present which have given shrewd people a key with which to unlock the

(108) Marcus Hartog, Introduction to : Unconscious Memory. pp IX-X.

(109) p 33.

chambers of the future".⁽¹¹⁰⁾ Butler wrote : Evolution, Old and New (1879) prompted by his own conviction that scant justice had been done by Charles Darwin and Alfred Russell Wallace and their admirers to the pioneering work of Buffon, Erasmus Darwin and Lamarck. To repair this, from his own standpoint, he presented an exposition of what seemed to him the most valuable portion of their teachings on evolution.⁽¹¹¹⁾ An example from Life and Habit may illustrate the case : "Lamarck's wonderful conception was hampered by an unnecessary adjunct", writes Butler, "namely, a belief in an inherent tendency towards progressive development in every low organism. He was thus driven to account for the presence of many very low and very ancient organisms at the present day, and fell back upon the theory, which is not yet supported by evidence, that such low forms are still continually coming into existence from

(110) ibid pp 248-249.

(111) (1) ibid Chapter XIII "Lamarck and Mr. Darwin"

(11) Unconscious Memory, Ch.IV, "Mr. Darwin and Evolution" etc.

(111) "Thought and Language" (1890) and

(1v) The Deadlock in Darwinism both in : Essays on Life, Art and Science (1890) ed. by R.A. Streatfield, Grant Richards, London (1904).

inorganic matter".⁽¹¹²⁾ Butler's statement above is given as a justification to Lamarck's theory⁽¹¹³⁾ that "the more simple bodies are easily formed, and this being the case, it is easy to conceive how in the lapse of time animals of a more complex structure should be produced, for it must be admitted as a fundamental law, that the production of a new organ in an animal body results from any new want or desire it may experience. The first effort of a being just beginning to develop itself must be to procure subsistence, and hence in time there comes to be produced a stomach or alimentary cavity ... other wants occasioned by circumstances will lead to other efforts, which in their turn will generate new organs". According to Lamarck then, genera and species have been evolved, in the main, by exactly the same process as that by which human inventions and civilisations are now progressing; this involves that intelligence and ingenuity, for example, should have had the main share in the development of every living creature around us.

(112) Life and Habit, op.cit., pp 253-254.

(113) cited by Butler on p. 253 in Life and Habit, from Vol. XXXVI, Naturalist's Library, Edinburgh, (1843).

Unconscious Memory (1880) was largely written to develop a hypothesis that memory has for its underlying mechanism special vibrations of the protoplasm, and the acquired capacity to respond to such vibrations once felt upon their repetition. To such an hypothesis, existing in name only, Butler gave it a warm and an enthusiastic reception in Chapter V, wherein he writes: "The view which connects memory with vibrations may tend to throw light upon that difficult question, the manner in which neuter bees acquire structures and instincts, not one of which was possessed by any of their direct ancestors".⁽¹¹⁴⁾ Such being his hypothesis, he shows clearly how much prominence he attaches to it. This reflects the essentials of the book as a contribution to biological philosophy. The final chapters of the book contain a lucid statement of objections to his theory as they might be put by a rigid necessitarian, and a reputation of that interpretation as applied to human action.

Another book of Butler's completes the series of his own biological observations. That is Luck, or Cunning, as the Main Means of Organic Modifications ? (1884). It presents Butler's doctrine of continued personality from generation to

(114) Unconscious Memory, p 58.

generation, and of the working of unconscious memory throughout, he indicated that, while this is implicit in much of the teaching of Spencer, Romanes, and others, it was nowhere explicitly recognised by them. It is not Luck, but Cunning, not the uninspired weeding out by Natural Selection but the intelligent striving of the organism which is at the bottom of the useful variations of organic life. His unfair remarks of Darwin⁽¹¹⁵⁾ are sometimes ascribed to his lack of personal familiarity with the biologists of the day and their modes of thought and work.

Butler's : The Way of All Flesh (1903), largely auto-biographical in content, provides a classic case-study of the Oedipus, family complex.⁽¹¹⁶⁾ "My most implacable

(115) (1) Unconscious Memory, Introduction, op.cit.,

(11) Basil Willey, Darwin and Butler, London, Chatto, (1960), Lecture IV.

(111) Gilbert Cannan, Samuel Butler : A Critical Study, London, Martin Secker, Chapter IV.

(116) See, for examples, Chapters 29, 30, 31 ; it is to be noted here that The Way of All Flesh was published posthumously in (1903), although Butler began to write it about the year 1872, and was engaged upon it intermittently until 1884.

enemy from childhood onward has certainly been my father ", he commented in his note-books. The conflicts nestled within his bosom were generated by the parental suppression to which he was exposed. This was reflected against all that was orthodox, against society and its institutions in his : Erewhon⁽¹¹⁷⁾ (1872), and against the Darwinian evolutionary creed; this is clearly shown in Life and Habit, Evolution, Old and New, Unconscious Memory, and other works, as alluded to above. The position seems to be, however, that it is for "Erewhon and The Way of All Flesh that Samuel Butler is likely to be remembered rather than for Life and Habit and Unconscious Memory",⁽¹¹⁸⁾ as Hearnshaw remarks.

It can be definitely said that Darwin succeeded in arousing the interest in the problems of heredity and mental inheritance. In this, and in other fields, Francis Galton (1822-1911), Darwin's half-cousin, became the leader. In evolution Galton insisted upon what he called "transiliencies" as a preserving value.⁽¹¹⁹⁾ Discussing the degree and the character of variations in the living beings, he highly

(117) Butleriana (1932).

(118) A Short History of British Psychology (1921), op.cit, p. 55

(119) "Discontinuity in Evolution" MIND, N.S., Vol III, No.2 (1894), p.372.

valued Darwin's Plants and Animals Under Demostication.⁽¹²⁰⁾

Unlike the Wundtians, for instance, who were interested in the generalised human mind, Galton was convinced that individual minds show a wide range of variations.⁽¹²¹⁾ This may well reflect the direct influence of Darwin to whom evolution meant, among other things, an emphasis upon individual differences - a point which is so important in Psychology at the present time.

Galton, doubtless, was endowed with discernment and versatility, so that he could apply psychological researches to the problems of human evolution. It was from this point of view that he wrote : Hereditary Genius (1869) which was originally based on a paper entitled : "Hereditary Talent and Character"⁽¹²²⁾ (1865). In this book at least two major contributions are incorporated.

(120) MIND, N.S. Vol.III, (1894), the reference was made to the idea in Darwin's : The Expression of the Emotions in Man and Animals. pp.33-34.

(121) (i) Boring, E.G., op.cit., p.461.

(ii) Heidbreder, E., op.cit. p.107.

(122) Published in the MacMillan Magazine of that year; see Burt, Sir Cyril, "Francis Galton and his contributions to Psychology". B.J. of Statist. Psych. Vol.XV, Part I, (1962), pp.1-49.

(a) A classification of mental traits into: (i) the ability to work; (ii) an interest in the work itself; (iii) the will to do the work.

It is interesting to notice that the above three divisions closely correspond to the modern parts of mind into

(i) cognitive, (ii) affective, (iii) conative,

(b) A clear distinction between : (i) general ability; (ii) special ability.

Such a differentiation Galton emphasised, and the (123) idea, especially that of "general ability", was borrowed by A. Binet and C. Spearman.

Galton also managed to advance statistical Psychology. It was he who first suggested that people can be graded according to the normal curve of distribution, (124) a curve that has such an important role in statistical psychology today. He could apply his statistical views to more specific questions contained in his : English Men of Science : Their Nature and Nurture (1874). The following characteristics are

(123) ibid, pp 16-17.

(124) (i) Hereditary Genius, op.cit,

(ii) Burt, Cyril, B.J.Statist.Psych. Vol XV (1962)
op.cit.

presented as associated with scientific eminence.

1. Physical and Mental Energy; 2. Health; 3. Perseverance;
4. Business Habit; 5. Memory; 6. Independence of character;
7. Mechanical Aptitude.

Many of Galton's ideas, later on elaborated and systematized by Karl Pearson and his school, underlie many recent developments in statistics. He adopted statistics as "the only tools by which an opening can be cut through the formidable thicket of difficulties that bars the path of those who pursue the science of man".⁽¹²⁵⁾ This statement is quoted from Galton's Natural Inheritance, (1889), wherein he could amass much data scientifically to discuss the basic biological transmission scientifically.

Galton is sometimes called the "father of mental tests". There seems to be much justification in such a designation. He conceived of the importance of quantitative methods and was often able to grasp their essentials. He could write, "until the phenomena of any branch of knowledge have been submitted to measurement and number, it cannot assume the status and dignity of a science".⁽¹²⁶⁾ His

(125) Natural Inheritance, (1889) pp 62-63.

(126) Brain, Vol 2, (1879).

"proposed statistical scale"⁽¹²⁷⁾ was first explained in a lecture at the Royal Institution in 1874. This was followed by a letter to Nature (1874),⁽¹²⁸⁾ and described more fully in Philosophical Magazine⁽¹²⁹⁾ (1875). The statistical methodology just referred to, Galton described in an elaborated manner in his: Memories of my Life⁽¹³⁰⁾ (1908); therein he stated that "the leading idea was that the measurements should sample a man with reasonable completeness; they should measure absolutely wherever possible, otherwise relatively among his class fellows; that is, by rank or percentile grades". Galton's idea quoted here, seems to represent views apparent in all his works, including : Enquiries into Human faculty and its Development (1883). Among many other topics, two main themes are to be noted. (i) individual differences, (ii) an analysis of the individual personality as a resultant of the two factors, 'nature' and 'nurture'.

(127) The full title was "On a Proposed Statistical Scale".

(128) "Psychometric Experiments' Vol IX, pp 342ff.

(129) Vol XLIX, pp 33-46.

(130) London, Methuen, p 267, see also : Burt, Cyril, B.J.Statist.Psych. Vol XV, (1962), op.cit.

It may be said,⁽¹³¹⁾ however, that Galton was a brilliant and original scholar, whose research and discussions led to new avenues in the fields of investigations. It seems that Hearnshaw is much justified in his conclusion that "there can be no question that Galton's work is one of the foundation stones of modern Psychology; and that both differential psychology and psychometrics largely derive from it".⁽¹³²⁾

Although Leonard Trelawny Hobhouse (1864-1929) is at times counted as a comparative psychologist,⁽¹³³⁾ he, in fact, is frequently considered as an encyclopaedic philosopher.⁽¹³⁴⁾ Yet it is true that he took special interest in Psychology and was successful.⁽¹³⁵⁾

(131) For full appreciation of Galton's wide interests and vivid imagination see :

Pearson, Karl, The Life, Letters and Labours of Francis Galton, Vol.I, (1914), Vol.II (1924) Vols. III and IV, (1930), Cambridge University Press.

(132) A Short History of British Psychology, op.cit. p.66.

(133) S. Hearnshaw, op.cit. p.101.

(134) R. Metz, op.cit. pp.150-151.

(135) See his article on "Comparative Psychology" in Encyclopaedia Britannica, (1929).

Hobhouse's philosophical achievement is distinguished for its breadth of view and for the comprehensive scope and wide variety of interests which it manifests. "His thought was always built upon the solid foundation of exact investigation into some region of empirical fact, and was constantly being rejuvenated at the well of experience; yet it never, on the other hand, stopped at the mere fact but always felt impelled to advance afresh to a philosophical conspectus and synthesis".⁽¹³⁶⁾ On Hobhouse's view, philosophy has as its goal the synthesis of the sciences, a synthesis which stands in harmony with the results of specialist research, and is built upon them as a foundation. His approach to the philosophical elements and the different subjects always bear the stamp of his own mind. The evolutionism of Herbert Spencer determined Hobhouse's ideas more effectively.

Naturally it would be an extensive task to deal with the various ramifications of Hobhouse's diverse activities, which covered numerous fields. At the moment, a resume of the essential features of his general philosophical adventures will be attempted.

(136) R. Metz, op.cit. p 152.

Hobhouse's logical epistemological and philosophical views are expounded in his : Theory of Knowledge (1896). This book, which is sometimes described as "critical realism",⁽¹³⁷⁾ begins with immediate consciousness or apprehension; the knowledge of that which is directly present or found in consciousness. All cognition begins with apprehension and returns to it in the end. "To be apprehended" is exactly the same as "to be the content of a consciousness".⁽¹³⁸⁾ In Mind in Evolution (1901), Hobhouse argued out many of Lloyd Morgan's and G.J.Romanes' views, and presented some of his own experiments. These experiments were of the same type as Lloyd Morgan's, and are not unlike Köhler's⁽¹³⁹⁾ on apes (1917), although they lack the added significance of being related to a new Gestalt system of Psychology. What Hobhouse meant by "consilience" is the mutual interdependence of the parts within a whole system. The evolutionary endeavour is but a movement towards greater inter-relationship and connectedness, leading to a wider scope. For him "every

(137) Metz, R., op.cit., p 157.

(138) Theory of Knowledge, (1896) 3rd ed, (1921).

(139) See Smith, F.V. Explanation of Human Behaviour, op.cit. Ch.IX.

organism is so built, on mechanical principles, or not, that every deviation from the equilibrium point sets up a tendency to return⁽¹⁴⁰⁾ to a sort of adaptability which he terms "homeostatic". This view bears resemblance to Lloyd Morgan's idea of evolving mind. Mind is known by its functions. "Where there is mind there is order and system, correlation and proportion, a harmonising of forces, and an interconnection of parts. The organism which is gifted with intelligence shows it by arranging its actions on a certain plan. It adapts its means to ends".⁽¹⁴¹⁾ Three points may now emerge from the statement quoted here :

1. The sentence "where there is mind there is order and system", is a clear reflection of McDougall's dictum: "where there is life, there is mind".
2. The whole argument is based upon evolutionary foundations; This shows the impact of Darwin's discussions on the subject.
3. Hobhouse, in line with both Darwin and McDougall, tried to emphasise that the growth of mind in life is displayed in the wider interconnection.

(140) Mind in Evolution, London, Macmillan, (1901), p.24.

(141) ibid, p 6.

Hobhouse's ethics, the more empirical side of which is expressed in Morals in Evolution (1906), and the more philosophical in The Rational Good (1921), is in full agreement with the main principle of his philosophy. His line of enquiry is in three stages: "morphology", "development" and "evaluation". The question of morphology he treated in Social Development (1924), and in : Development and Purpose (1913). In Morals in Evolution, which is not only a treatise on morals, but on comparative sociology, the method simply is an account of the historical evolution of the facts of morality based on a wide empirical survey. His ethical philosophy is given only in briefest outline and is interwoven with his account of the history of ethical ideas. He was aware, however, that the problem needed independent discussion and he therefore returned to it in The Rational Good (1921) and in Elements of Social Justice (1922). In the former he defends the view that a rational and demonstrable standard of value is discoverable, and in the latter book, he tries to show its application to the basic problems of social organisation, both political and economic.

Individual impulse and social tradition are the two poles between which we move.⁽¹⁴²⁾ The character of man is the basis of the moral standard. The latter is a principle, which in his view, has been but little understood in modern ethics and should be fully appreciated.⁽¹⁴³⁾ Hobhouse shows that rational elements such as purpose and deliberation play a part as great as instinctive feeling. Clear thinking is as indispensable in conduct as right feeling, "The most senseless human being is not actuated simply and solely from impulse". In human society "the conditions regulating conduct are from the first greatly modified. Instinct, becoming vague and more general, has evolved into 'character', while the intelligence finds itself confronted with customs, to which it has to accommodate conduct".⁽¹⁴⁴⁾ A rational standard of moral ethics is a sure guide for individuals in human society, whereas tendencies of higher animals do not set down rigid lines of behaviour which are perfect from the outset. Intelligence intervenes and modifies as well.⁽¹⁴⁵⁾ He finds the beginnings

(142) Morals in Evolution, p 14.

(143) ibid, p 14.

(144) ibid, p 12.

(145) ibid, p 7.

of moral rationality already in that conscious purposeful behaviour which is to be seen in the lower as well as the higher stages of the moral life.

In : Social Evolution and Political Theory (1911), as elsewhere, Hobhouse complies with the national tradition. Here he becomes the typical representative of a democratic state. In Social Development (1924), as in : The Metaphysical Theory of The State (1918), and Development and Purpose (1913), before, and The Elements of Social Justice (1922) afterwards, Hobhouse endeavoured to lay down laws and customs that are possible to be spoken of as institutions. He saw that (1) a theory of "the End, purpose, or value of social life" is one thing and a theory of its actual conditions is another. (2) Both inquiries are legitimate and necessary to the full understanding of social life; and (3) the question of supreme interest is the relation between the respective results⁽¹⁴⁶⁾ of the two enquiries in question,

Another thinker in the line of evolutionary and comparative psychology is Conway Lloyd Morgan (1852-1936). Morgan, however, was a genuine scientist and specialist who

(146) Social Development, London, George Allen & Unwin (1924)
pp. 12-48.

had occupied himself with several specifically scientific fields of study, such as Physics, English Literature, Constitutional History, Geology, Biology, and Zoology. Later he devoted himself to psychological investigations, which resulted in numerous writings by which different branches of the science were powerfully stimulated and advanced.

Although Morgan owes most to Huxley, he is strongly rooted in the earlier British tradition; he goes back to the phenomenalism of Berkeley and Hume. His doctrine, although in the main in harmony with Hume's position, is expressed in a much more definite manner. He, in actual fact, has formed a philosophical terminology which is very definite. He has introduced many terms which have enabled him to express his ideas in a precise form.

The mistakes that G.J. Romanes made were indicated and corrected by Lloyd Morgan. In an article in MIND⁽¹⁴⁷⁾ (1886) Morgan noted several such mistakes in Romanes' Animal Intelligence and Mental Evolution in Animals, both alluded to above. He corrected, for example, Romanes' notion of

(147) MIND, Vol XI, No 42, April, 1886, pp 174, 182, 183, 184.

"Reflex Act", "Instinct" and "Intelligence". Romanes for example, ascribed consciousness to these three elements. Morgan denied it to the reflex action at least. He disapproved of Romanes' usage of reflex in the sense of instinct. According to Morgan, reflex actions are "those which are of the nature of organic responses to more or less definite stimuli, and which involve rather the organs of an organism than the organism as a whole". Whereas, "instinctive actions are those which are performed, through the influence of inherited habit, by the individual in common with all the other members of the same more or less restricted group, in adaptation to certain oft-recurring circumstances".⁽¹⁴⁸⁾ Instead of "Reason" as employed by Romanes, Morgan used "intelligence". He maintained that intelligent actions are those which are performed by the individual, in virtue of his individuality, in special adaptation to special circumstances. This shows clearly that on Morgan's view, both intelligence and instinct are flexible and adaptable. When Romanes wrote of his monkey discovering "the mechanical principle of the screw",

(148) ibid, p 184.

Morgan considered this as "an unsatisfactory misuse of terms". Morgan's reaction against Romanes' mistakes is found most clearly in his : Animal Life and Intelligence (1890), which he later revised under the title : Animal Behaviour (1900).

Morgan's general psychology that deals in detail with the relation of the animal to the human mind is contained in his : Introduction to Comparative Psychology (1894). In this book he undertook to offset "the anthropomorphic" tendency in the interpretation of the animal mind. He did this by an appeal to the "law of parsimony", known as "Lloyd Morgan's Canon" for which he is so well known. The formulation of the canon is as follows: "In no case may we interpret an action as the outcome of the exercise of a higher psychical faculty, if it can be interpreted as the outcome of the exercise of one which stands lower in the psychological scale".⁽¹⁴⁹⁾

In the same book, Morgan argued that problems are to be settled "not by any number of anecdotes, but by carefully conducted experimental observations, carried out

(149) Lloyd Morgan, An Introduction to Comparative Psychology, London, The Walter Scott Publishing Co. (1894), p 53.

as far as possible under nicely controlled conditions".⁽¹⁵⁰⁾
Although he favoured an experimental approach, Morgan's
experiments were not extensive and were, in fact, less
important than his methodological contributions.

In his Comparative Psychology, Morgan assumed a
monistic point of view. Unlike the dualist who starts with
the assumption of the independence of subject and object,
the monist looks upon subject and object as distinguishable
aspects of that which in experience is indivisible. They
are disinctive but are nowise independent and separate in
existence. Such is a "monistic theory of knowledge",⁽¹⁵¹⁾
which Morgan accepts and adopts. He accepts⁽¹⁵²⁾ a
"monistic interpretation of Nature" as well. Again unlike
the dualist who contends that mind is a separable existence,
sui generis, forming no part of the natural world into which
it is temporarily introduced, the monist argues that, alike,
in its biological and its psychological aspect, the
organism is the product of evolution; that the mind is not

(150) ibid, p 359.

(151) ibid, pp 1-3.

(152) ibid, pp 3-5.

"extra-natural" nor "supra-natural", but one of the aspects of natural existence. A third aspect of monism⁽¹⁵³⁾ which Morgan accepts consists in an analysis of Nature, which is the object of knowledge; Nature as knowledge and knowable. According to the monistic assumption, then, the organism is one and indivisible, but is polarizable in analytic thought into a bodily and a mental or conscious aspect. Body and Mind, like object and subject, are distinguishable but not separable.

It is interesting to note that Lloyd Morgan allowed for two main kinds of learning, "there are two important processes", he observed, "which fall under the head of acquisition. We acquire experience, and we acquire skill. The first involves the correlation of incoming data from the special senses, from the motor organs, and from the viscera. The second implies the more or less accurate co-ordination of outgoing impulses to the viscera and to the motor organs."⁽¹⁵⁴⁾ The word "habit" he used in two different senses, in a general sense for describing the various activities and the behaviour

(153) ibid, pp 5-6

(154) Habit and Instinct, London, Edward Arnold, (1896),

of animals; he also used it in a more restricted meaning which indicates that mode of behaviour which ensues from the repetitive course of any individual experience. To the latter sense, he limited the term "habit" as technical. By this term he meant that it becomes stereotyped through repetition.⁽¹⁵⁵⁾ He pointed out that the word "instinct" is also used in various ways. It is used in a popular sense, where it indicates the difference between the actions of animals and the ways of man, although not all man's acts are rational; and it is used in describing that part of human "character and conduct which is not the outcome of a consciously rational process".⁽¹⁵⁶⁾ Contradicting William James's theory on emotions,⁽¹⁵⁷⁾ Morgan stated that "The bodily changes follow directly the perception of the existing fact, and that our feeling of the same changes as they occur is the emotion".⁽¹⁵⁸⁾

(155) ibid, p 1.

(156) ibid, p 2.

(157) published in MIND (1884), Vol IX, pp 188ff, later elaborated in his : Principles of Psychology (1890).

(158) Habit and Instinct, op.cit, p 189; Morgan summarised the argument in a series of numbered paragraphs pp 319-320.

The instinctive act was a subject on which Morgan focused his attention. The question of an underlying impulse he regarded as a metaphysical not a scientific matter. In Instinct and Experience (1912) Morgan observed that "instinctive behaviour, which has its roots in organic evolution, affords the rude outline sketch of that far less imperfect and far more fully serviceable behaviour, the finishing touches of which are supplied by practice under the guidance of intelligence. The net result ... is a joint product of instinct and intelligence, in which the co-operating factors are inseparable, but none the less genetically distinguishable".⁽¹⁵⁹⁾ He maintains that every organic movement, however new, is related to the foregoing organic changes.⁽¹⁶⁰⁾ He believes that in all cases "an instinctive act is, from the biological and physiological point of view, nothing but a reflex. But from the psychological point of view, it is always something more than a reflex, in so far as it affords data to conscious experience".⁽¹⁶¹⁾ He approaches the problem of the genesis

(159) Instinct and Experience (1912) p.26

(160) ibid p 18.

(161) ibid p 22.

of experience in the individual mind along lines that are purely naturalistic, through "the avenue of biological and psychological considerations".⁽¹⁶²⁾ He believed it is necessary to distinguish between the view of the genesis of experience and that of metaphysics.⁽¹⁶³⁾ This apparently shows that Morgan's views are throughout tinged with an effectual element of evolutionary flavour. Nor does this less appear in his : Life, Mind and Spirit (1926), wherein the history of the world is conceived as an evolutionary process in which at a number of critical points, something definitely new emerges. Strangely, Morgan sometimes tries to avoid the issue of the emergence of mind. With this view, Hobhouse seems to have been in full agreement.⁽¹⁶⁴⁾ For McDougall, of course, there was no problem, since wherever there is life, there is mind.

(162) "The Natural History of Experience" B.J.Psychol.
Vol III, part I, December 1909, p.1

(163) ibid p.2

(164) MIND, N.S., (1926) Vol XXXV, No 130, pp 355, 360.

In Lloyd Morgan's investigations, both naturalism and atheism join hands. His position is more or less agnostic. In the three stages of development, matter, life and mind, he saw a form of association which unites them. His keenly analytic mind enabled him to reconcile two different yet complementary eras, the Darwinian era and that of modern Psychology.

However, Darwin's theory of evolution, which "took the world by storm",⁽¹⁶⁵⁾ left its stamp almost on every avenue of thought. Its traces can be found, in one way or another, in the writings of

(165) Boring, E.G., op.cit, p 470.

many⁽¹⁶⁶⁾ other XIXth century Ethicists and Psychologists. Perhaps most notable among them - to mention only two - were Alexander Sutherland (1852-1902), best know for his book: The Origin and Growth of Moral Instinct (1898), and

(166) See:

- (i) Ginsberg, Morris, "The Concept of Evolution in Sociology" Proc.Asist.Society, VolXXXI, 1930-31, pp 201-224.
- (ii) Boring, E.G. op.cit, pp 470ff.
- (iii) Smith, John Maynard, The Theory of Evolution, Pelican ed, 2nd ed. (1966).
- (iv) Russell, Bertrand, History of Western Philosophy, London, George Allen (1946), pp 752ff.
- (v) Driesch, Hans, The Science and Philosophy of the Organism, Gifford Lectures, A & C Black 2nd ed (1929), pp 168-175, 181.
- (vi) Myers, Charles S. "Vitalism : A Brief Historical and Critical Review" MIND N.S. Vol IX No.34, (1900) pp 233, 328.
- (vii) James, Wm., "Are We Automata?" MIND, Vol IV No.13 (1879), pp 2,7.
- (viii) A Symposium in Proc.Aristot.Society, Vol I, part 3, (1890) entitled : "Is there Evidence of Design in Nature?". See also: a symposium in Vol III (1896).
- (ix) A Symposium in Proc.Aristot.Society, Vol II, (1893), entitled : "Does Law in Nature Exclude the Possibility of Miracle?".

Sir Leslie Stephen (1832-1904). He is well known for his : The Science of Ethics (1882) and the valuable History of English Thought in the XVIIIth Century (2 vols., 1876).

CHAPTER III

ESTABLISHMENT OF MODERN PSYCHOLOGY AT THE TURN
OF THE CENTURY.

1. Philosophical Psychology.

From its beginnings, the development of Psychology in Britain seems to have followed a somewhat direct course. It proceeded on a line parallel to the empiricist, philosophical tradition. It was continued by the two Mills, enriched by Darwin's evolutionary investigations, and brought to a conclusion by authors such as Bain, James Sully, James Ward, George F. Stout, and others.

It has been suggested⁽¹⁾ that it was in the hands of J. Sully (1842-1923) that philosophical psychology remained popular for a long time. Yet Sully was not so much a philosopher as a scientific and empirical investigator. Like Bain, he could amass fresh material, or work over the old in accordance with the latest ideas. Following A. Schopenhauer, the pessimist, in his Pessimism : A History and a Criticism⁽²⁾ (1877), Sully dealt with two kinds of pessimism : (1) "The popular and instinctive",

(1) (1) Merz, J.Th., Vol.III, pp.75,78, Vol.IV, op.cit., p.394.

(11) Metz, R. op.cit., p.747.

(111) Boring, E.G., op.cit., pp.459-460.

(2) London, Henry S. King and Co., pp.2-3.

and (11) "The philosophic and reasoned". These two types are dependent upon each other. He also was inclined to speak of what he called "the new and speculative pessimism", which must be studied in connection with the older pessimism. His intention was to show that the "fundamental contrast in the estimate of collective human life shows itself not only in the view of the object as a whole, but also in the estimation of certain of its departments or aspects".⁽³⁾

Sully conceded that our idea of pleasure owes something to the known contrast between pleasure and pain. Like the hedonists, he emphasised the role that pain and pleasure play in the individual's life. It seems that he regards pleasure as a motive. "We may say that pleasure is all the more precious because it is the opposite" and "the negation or exclusion of pain". Yet it seemed to him that "pleasure would still be pleasure, still be estimable and desirable, even were there no such thing as pain". In so thinking, Sully believed that "the mind may gain a distinct idea of any aspect of its impressions or experiences".⁽⁴⁾

Sully opened his first book : Sensation and Intuition : Studies in Psychology and Aesthetics⁽⁵⁾ (1874) with

(3) ibid, p.13.

(4) ibid, p.261.

(5) (1880), 2nd ed., London, Kegan Paul.

a chapter on "The Relation of the Evolution hypothesis to Human Psychology". To him, "Psychology holds a unique rank in the hierarchy of the Sciences".⁽⁶⁾ It is in its scientific aspect that psychology presents itself to the evolutionist. He appreciated Spencer's way of discussing the phenomena of consciousness through all its manifested gradations in the animal series; he approved of Spencer's affiliation of his conclusions to his general system of evolutionary ideas. He saw that certain aspects of mental evolution in connection with the origin of man and the phenomena of emotional expressions were discussed by Darwin in a less systematic manner. His own version is that the hypothesis of evolution, "besides explaining the general nervous conditions of mental phenomena in the human organism, seeks to account for some of those modes of feeling which, as observed, do not appear to be the effects of causes acting within the limits of the individual life".⁽⁷⁾ This it does by help of the theory of hereditary transmission. To Sully there seemed to be two principal mental conditions of a general impartial interest in human character, namely, previous moral culture with its accompanying enlargement of sympathy; and a certain development

(6) Sensation and Intuition (1874), p.1.

(7) ibid, pp.2,3,5 ; see also : pp.17,18,20,21.

of intellectual curiosity. The chief psychological force in the production of interest in human character is of an intellectual kind. The mind is the active factor in distinguishing between the inner and the outer aspects of human nature. Without the capability of the mind in thinking steadily, an individual will be unable to appreciate any of the proper aspects of character. This capability of making mind a distinct object of thought is a late acquirement in human progress. This point seems to be illustrated in the growth of language, since many of the terms and phrases denoting mental processes, such as were originally borrowed from tangible things.⁽⁸⁾ It is obvious too, that Sully turned his attention to aesthetics and thus opened up for empiricism a province which was new or at least much neglected since the XVIIIth Century.⁽⁹⁾

In his treatment of Psychology, Sully in the main followed the physiological principles and the association method of Alexander Bain. He considered psychology at first in

(8) ibid, pp.248, 249, 250ff.

(9) (1) ibid, pp.247-283.

(11) see also his article on Aesthetics written for the 9th ed. of Encyclopaedia Britannica (1886).

its outlined,⁽¹⁰⁾ and then in a comprehensive presentation as the science of human mind.⁽¹¹⁾ Psychology, he regarded as the foundation of all the knowledge which aims at leading and influencing thought, feeling, and action. "All that the mind does can be brought under one or more of the following heads : (a) knowing, cognition, or intellection; (b) Feeling, states of pleasure and pain, or affective states; and (c) Willing, conation, or active processes".⁽¹²⁾ Psychology he defined as "the science that investigates and explains the phenomena of mind, or the inner world of our conscious experience". These phenomena include our feelings of joy and sorrow, love, and so on. "Mental Science" is to supply a general theory of this group of phenomena.⁽¹³⁾

Sully also touched upon various psychological topics such as laughter,⁽¹⁴⁾ illusion,⁽¹⁵⁾ studies of

(10) J.Sully, Outlines of Psychology, London, Longmans, 1st ed., (1884), new impression (1898).

(11) _____, The Human Mind, a Text-book of Psychology, London, Longmans, 2 vols (1892).

(12) Outlines of Psychology, op.cit., p.32.

(13) The Human Mind, Vol.I, pp.lff; see also Vol.II, pp.lff.

(14) An Essay on Laughter, London, Longmans, (1902).

(15) Illusion : A Psychological Study, London, Longmans, (1881).

childhood,⁽¹⁶⁾ as well as education⁽¹⁷⁾ and moral character. He made the basis of his theories evolutionary, especially in laughter and studies of childhood. The wide range of subjects which he discussed clearly show that he was essentially scientific. He was a thorough researcher, and not merely a writer of text-books, as E.G. Boring⁽¹⁸⁾ unfairly judged him. It is a recognised fact that encouragement of child study is largely due to him and to McDougall.⁽¹⁹⁾ His discussions of mental processes, namely, cognition, affection, and conation, represent a link in the whole chain of British psychological thought.

It may be said with certainty that some of Sully's views were continued and fully discussed by James Ward (1843-1925). He was one of the so-called "systematizers".⁽²⁰⁾ His works reflect a strong influence of biology. His studies in Psychology were far superior to his philosophical works. He

(16) Studies of Childhood, London, Longmans, (1895), new impression, (1904).

(17) The Teacher's Handbook of Psychology, London, Longmans, (1886).

(18) op.cit., p.467.

(19) Davidson, M.A. "Current Trends in Clinical Psychology", Current Trends in British Psychology, ed. by Mace, C.A. and Vernon, P.E., London, Methuen, (1953), p.73.

(20) Brett's History of Psychology, op.cit., p.585.

first presented his psychological views in an article published in the 9th edition of Encyclopaedia Britannica (21) (1886). The article was elaborated and reached its full amplification in his Psychological Principles (1918), which ranks as a classic.

The article in question gained recognition even from Ward's opponents as "among the masterpieces of the philosophy of the human mind". (22) This was Bain's remark. Yet defending his position on mental activities against Ward's observations, Bain held "our education from first to last takes principally the form of adding unit to unit, under the retentive or adhesive attribute of nature, with which we are so marvellously gifted; and any other process of development is quite secondary in comparison". (23)

Ward's ideas (24) seem to have shaped the outlook of British Psychologists. McDougall, for example, regarded his

(21) The same article was also revised for the 11th ed. of Encyclopaedia Britannica, (1911).

(22) Bain, A., "Mr. James Ward's Psychology" Mind, Vol.XI, No.44, (1886), pp.461ff.

(23) Bain, A., Mind, Vol.XII, (1887), pp.461ff.

(24) See his article "Psychological Principles" MIND, Vol.VIII, Nos.30,32, April (1883), pp.153-169, 465-486, respectively.

Outline of Psychology (1923) as "an endeavour to carry to its logical conclusion that critical rejection of the mosaic psychology which had been a main theme of the psychological writing of James Ward". Charles S. Myers in his Presidential address⁽²⁵⁾ on "the Nature of Mind" at the British Association put forward views which were in line with Ward's arguments. In 1947, R.J. Bartlett presiding at the British Psychological Society made several favourable references to Ward and so too, have many of his contemporaries.

In nearly all its essential points, Ward's psychology was in opposition to the earlier interpretation of psychical and mental life. The psychology he advocated may be variously described as organic, teleological or hormic. Like Sully, he divided⁽²⁶⁾ the subject-matter of Psychology into cognition, feeling, and conation. Yet unlike Sully, he fully elaborated on the topic. He argued that Psychology deals with (1) a "Subject" involuntarily attending to changes in "the sensory continuum" (Cognition); (2) in consequence being either

(25) (1931), Sect, J.

(26) (1) E.G.Boring, op.cit., p.463.

(11) R. Metz, op.cit., pp.747-748, 399-402.

(111) L.S. Hearnshaw, op.cit., p.136.

pleased or pained (feeling); and (3) by voluntary attention producing changes in "the motor continuum" (conation). The word "Subject" seems⁽²⁷⁾ to have been used by Ward in the sense of ego which is conscious of what is going in the mind; and to this ego is referred everything that is mental. To Ward, three varieties of ego appeared to be distinguishable.

1. The metaphysical conception of the soul.
2. The biological or empirical ego.
3. The psychological self to which all objects are presented.

From the point of view of the object, there are (1) cognition, which is the presentation of sensory objects, (2) conation is the presentation of motor objects, and (3) feeling is not a presentation, because it does not lie in experience, but is the primordial consequent of "sensory presentation" and the condition of "motor presentation".⁽²⁸⁾ About consciousness and experience, Ward writes "A mouse, we believe, feels, and strives: feeling and striving are then factors of its experience, but we have no reason to think that

(27) McDougall, Wm., "A Contribution Towards An Improvement In Psychological Method", MIND, Vol.VII, (1898), p.17.

(28) (1) J.Ward, Psychological Principles, 2nd ed., London, (1920), 1st publ. 1918, pp.21-22, 57, 45-51.

(11) See also his article in Encyclopaedia Britannica, 11th ed. (1911), Vol.XXII, pp.547-604.

they are objects of its knowledge. They may become such for a man no doubt; but there is much, even in his experience, of which we should say that he is conscious no longer or not conscious as yet".⁽²⁹⁾ On Ward's theory "feeling" may be used in various meanings: it may denote (a) a touch, as feeling of roughness; (b) an organic sensation, as feeling of hunger; (c) an emotion, as feeling of anger; (d) any purely subjective state, as feeling of certainty or of activity; (e) the one subjective state that is purely "affective", as the feeling of pleasure or pain.⁽³⁰⁾ The simplest form of psychical life involves not only a subject feeling, but a subject having qualitatively distinguishable objective presentations which are the causes of its feeling. Ward, therefore, regards "feeling and volition" as sensations or complexes of sensations.⁽³¹⁾ This is why he regarded modern Psychology as having a special mission

(29) Psychological Principles, op.cit., pp.21-22.

(30) ibid, p.41.

(31) (1) J.Ward, "Modern Psychology : A Reflexion" MIND, N.S., vol.II, No.5, (1893), p.56.

(11) _____, Psychological Principles, op.cit., pp.45, 123.

(111) _____, Psychological Principles, MIND, Vol.XII, No.46, (1887).

to carry out, namely, to reduce "all psychical life to a more looking on physical brain-processes".⁽³²⁾ Modern psychology makes a great show of system in this procedure (1) by instituting a parallel between the subject of Psychology and the substance of Physics; (11) by insisting that Psychology as a science can deal only with events, and not with efficient causes.⁽³³⁾

Referring to pleasure and pain, Ward showed that from Plato onwards, psychologists and moralists have been fond

(32) MIND, Vol.11, No.5, (1893), op.cit., p.79.

(33) (1) ibid, pp.59-60.

(11) See also his article "Assimilation and Association" being part I in MIND, N.S., Vol.II, No.7, (1893), pp.347ff. where he rejected A. Bain's idea that present impressions revive their like among previous impressions, as he refuted Hoffding's "tied ideas".

(111) See also his part II of the same article in MIND, N.S., Vol.III, No.12, (1894), where he entirely rejects the association of ideas.

(1v) His article "On the Definition of Psychology" in B.J.Psychology, Vol.I, part I, (1904), pp.3ff., cf.

F.H. Bradley's article in MIND, N.S., 1899, and

Wm. McDougall's article in MIND, N.S., (1901) about ideation.

of treating of these subjects. Pleasure is prior and positive, and pain only the negation of pleasure. Emotion is a complete state of mind, a psychosis, and not a psychical element. Such a wide range of psychological topics did Ward treat. Under "the theory of psychophysical parallelism",⁽³⁴⁾ Ward showed that the various theories of parallelism attempt to answer the question: How are psychical changes related to the physical changes in the organism ? All such theories start from the Cartesian doctrine of the essential disparateness and distinctness of matter and of mind. The psychological laws of mind Ward tended to apply to education which would result in the acquired perfection of man.⁽³⁵⁾

Nor did Ward completely abandon philosophical excursions. Of the twelve papers - published between 1889 and 1925⁽³⁶⁾ - nine at least may be grouped about three main topics:

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- (34) Being a chapter in : Naturalism and Agnosticism, a Gifford Lecture Book, Vol.II, delivered 1896-8, 3rd ed. 1906, London, Adam and Charles Black, p.3.
- (35) Psychology Applied to Education, A series of lectures given during the Easter Term (1880) at Cambridge, compiled and published in the year (1926). Cambridge Univ.Press, ed. by G. Dawes Hicks, pp.1, 5ff.
- (36) Afterwards published in book-form entitled : Essays in Philosophy, Cambridge, (1927).

(1) the nature, method, and modern tendencies in Philosophy;
(2) the contrast and relation between "the realm of nature"
and "the realm of ends"; (3) faith, or the religious factor
in action and thought. In "philosophical orientation and
Scientific Standpoint",⁽³⁷⁾ Ward suggests that philosophy,
however far it attempts to reach in speculation, must still
be worked out from the point of view of the human experience
and human life. Our ultimate interpretation of the world
must still be anthropomorphic. By faith, Ward meant
"personal trust and confidence in an Unseen Being to which the
religious in all ages have attributed to their power to overcome
the world".⁽³⁸⁾ As he saw it, "Modern philosophy is quite as
truly a new birth as modern science".⁽³⁹⁾ He clearly
distinguished between "monism" and "monadism" : the one offers
us unity by way of substance, the other offers us unity by way
of organisation. He observed that "Purpose carries with it the
notion of good or worth, the supreme category in the world of

(37) (i) incorporated in the book above, pp.198ff.

(ii) see also: H.Barker, (Critical Notice) in MIND, N.S.,
Vol.XXXVI, No.144, 1927, pp.480ff.

(38) "Can Faith Remove Mountains ?" The above book - p.101.

(39) "The Progress of Philosophy", op.cit., p.116.

history".⁽⁴⁰⁾ Looked at broadly, the history of philosophy may be regarded as "philosophy experimenting".⁽⁴¹⁾ In Ward's philosophy "the human self and its activity were facts to be accepted as such, for Ward did not profess to have any metaphysical insight into their nature ..."⁽⁴²⁾

In Naturalism and Agnosticism,⁽⁴³⁾ Ward treated of Naturalistic Philosophy. He conceived of it as consisting in the union of three fundamental theories: (1) the theory that nature is ultimately resolvable into a single vast mechanism; (2) the theory of evolution,⁽⁴⁴⁾ as the working of this mechanism; and (3) the theory of psycho-physical parallelism, or conscious automatism, according to which theory, mental phenomena occasionally accompany but never determine the movements and interactions of the material world.⁽⁴⁵⁾ His

(40) "Mechanism and Morals" op.cit., p.232.

(41) "The Progress of Philosophy", op.cit., p.117.

(42) (1) H. Barker, MIND, N.S., Vol.XXXVI, No.144, (1927), op.cit., p.483.

(11) F.C. Bartlett, "James Ward 1843-1925", Amer.J. of Psychol., Vol.36, No.3, 1925, pp.449-453.

(111)A.H. Murray, The Philosophy of James Ward, (1925).

(43) op.cit., Vol.I, p.186.

(44) ibid, Vol.I, pp.186-7, 205, 212-242, 243-271, 274-275.

(45) ibid, Vol.II, p.186.

refutation of materialism and dualism is urged by his firm belief in "a spiritualistic monism" which is tenable and the only stable position. "Nature is Spirit".⁽⁴⁶⁾ He concluded, with Darwin, that "Natural selection without teleological factors is not adequate to account for biological evolution".⁽⁴⁷⁾ His attitude is shaped in a form that "Naturalism and Agnosticism"⁽⁴⁸⁾ are powerful guides. Ward's whole argument has been commented on as being "thoroughly coherent, and the refutation of Dualism and the constructive suggestion put forward in the end to be of the very greatest interest and importance".⁽⁴⁹⁾

In The Realm of Ends or Pluralism and Theism⁽⁵⁰⁾

(1907-10) Ward again touched, albeit lightly, on the question of evolution. Consistently he regarded evolution as

(46) ibid, preface, p.XII, Vol.II, pp.97-151.

(47) ibid, p.302.

(48) ibid, Vol.II, p.283, cf. (1) "Does Law in Nature exclude the Possibility of Miracle ?" A symposium in Proc.Aristotelian Society, Vol.II, No.2, (1893), pp.31-42.

(11) Hans Driesch, The History and Theory of Vitalism, Eng. Trans. (1914), London.

(49) E.E.C. Jones, "Dr.Ward's Refutation of Dualism" MIND, N.S., vol.IX, No.35, (1900), p.370; see also : T. Loveday, "Theories of Mental Activity", MIND, N.S., Vol.X, 1901.

(50) The Gifford Lectures, published (1911) Cambridge.

"epigenesis and equilibration".⁽⁵¹⁾ The lectures contained in this book serve as a sequel to the course delivered in Naturalism and Agnosticism. The difference is that in the early lectures, Ward's endeavour was to establish the priority of the "idealistic" or "the spiritualistic standpoint" ; and in "The Realm" he tried to ascertain the idea of the world as to be "interpreted throughout and strictly in terms of Mind". Ward acknowledges as "more honest"⁽⁵²⁾ F.H. Bradley's conclusion in his metaphysical essay : Appearance and Reality⁽⁵³⁾ (1893) that science is a poor thing if measured by the wealth of the real Universe; Bradley finds that "in the end Reality is inscrutable", and is confined in the "irresistable impression that all is beyond us". This view of Bradley's inspired Ward to review the progress of the natural sciences since the times of Galileo and Descartes.

In brief, Ward's Psychological system has its own characteristics. It is enriched with terms and concepts which seem to have affected subsequent psychology, and most of them are still valid. He used, for example, such terms as "striving"

(51) J. Ward, The Realm of Ends, Lecture V, pp.97-116.

(52) ibid, p.1.

(53) 2nd ed., London, Swan Sonnenschein (1908), book II, Chapters: XIII, XIV, and XV.

"purpose", "presentation", and the like. The first two are among the key words in McDougall's hormic system. By the latter word, Ward meant the individual's consciousness and awareness of what is going in mind and in the environment at large. His rejection of materialism and dualism, on the one hand, and his adoption of parallelism and monadism, on the other, bring his scheme closer to that of McDougall's. Taken as a whole, Ward's treatment of Psychology can be regarded as a big step in the direction of presentation, methodology and improvement.

While discussing Philosophical Psychology, it can be said, however, that the history of British Psychology is always studded with the names of important philosophers. Among the more recent figures, the names of Thomas Hill Green (1836-1882), of Oxford, Henry Sidgwick (1838-1900), of Cambridge, and Carveth Read (1848-1931) - to mention only three - may be indicated.

Green, for instance, was primarily a moralist⁽⁵⁴⁾. Therefore he attacked both empiricism and hedonism on the ground that they are inadequate for explaining lofty moral

(54) Green, T.H., Prolegomena to Ethics, Posthumously ed. by Bradley, A.C., (1883); see also :
Metz, R., A Hundred Years of British Psychology, op.cit., pp.268ff.

issues. Pleasure, he thought, is irrelevant to morals. He taught that instincts and impulses must be tamed and subjected to ethical dominance. The topic is rather subtle and complicated; but in the same sense, although more clearly, McDougall indicated that instincts in the human being are better curbed and modified by the formation of sentiments, particularly that of self-respect.

The impact of H. Sidgwick upon modern Psychology appears to be considerable. Like Green, he was mostly interested in ethical questions. His critical and analytical method⁽⁵⁵⁾ seems to have influenced the later thinkers of Cambridge, including McDougall who attended his lectures on Moral Philosophy.

Ethics with Sidgwick⁽⁵⁶⁾ may be called "scientific", but he preferred to call it a "study" rather than a "science". In so thinking, he believed that ethical study; can embrace two main disciplines: (1) Psychology which, to him,

(55) See (1) McDougall, Wm., An Introduction to Social Psychology, op.cit., pp.326, 327.

(11) Metz, R., A Hundred Years of British Philosophy, op.cit., pp.83-85.

(56) The Methods of Ethics, (1874), 6th ed., Posthumous (1901), page 1.

deals with voluntary action and its springs, on the one hand, and with "moral sentiments" and "judgements", on the other. Motives, moral sentiments and judgements are all "actual phenomena of individual human mind". (11) Sociology which deals with similar phenomena as they are manifested by normal members of human societies.⁽⁵⁷⁾ Ethics must also free from error the apparent cognitions⁽⁵⁸⁾ which are characteristic of man. The cognitions, which he termed "dictates" or "imperatives", are normally accompanied by emotions of various types. It seems that such emotions Sidgwick called "moral sentiments". Such an interpretation appears to have been taken as a guide line by McDougall, who improved and elaborated the theory of sentiments generally. A big difference is to be noted, namely, in Sidgwick's contentions, a sentiment is based on emotions which are unstable, whereas in McDougall's system a sentiment is firmly founded upon certain instincts which are originated in the individual's disposition and constitution.

(57) (1) ibid, pp.1-2.

(11) Lectures I and III in : Philosophy : Its Scope and Relations, posthumous, ed. by J.Ward, (1902), London, MacMillan (XII Lectures).

(111) Philosophy : Its Scope and Relations, op.cit.,

(58) (1) The Methods of Ethics, op.cit., pp.2ff, 40ff.

(11) Outlines of the History of Ethics, London, MacMillan, (1886).

Another affinity of Sidgwick's scheme with that of McDougall's, exists in the discussion of Mind. Sidgwick⁽⁵⁹⁾ argued that mind may be considered either (1) in itself, or (2) in relation to matter. By matter Sidgwick seems to have meant the body. In order to examine the relation of Mind to its body, the help of both Philosophy and Psychology must be sought. In such a way the two subjects can co-operate. Indeed, from such a point of view - the philosophical and the psychological - did McDougall discuss the problem of the Body and Mind⁽⁶⁰⁾ thoroughly.

Again, like Green, Sidgwick outlined⁽⁶¹⁾ various views on morality, pleasure and pain, impulses, and the like. Like McDougall,⁽⁶²⁾ he criticised hedonic doctrine on the ground that volition is not always determined by pleasures or pains. He indicated what he called "Psychological hedonism",

(59) Lecture I in Philosophy: Its Scope and Relations, op.cit.,

(60) London, Methuen, (1911), a reprint as a Beacon paperback, (1961).

(61) (1) Outlines of the History of Ethics, op.cit., pp.10ff.

(11) The Ethics of T.H. Green and H. Spencer, London, MacMillan, (1902), published posthumously.

(111) Lectures on the Philosophy of Kant, ed. by J.Ward, London, MacMillan (1905).

(1v) "Green's Ethics" Mind, Vol.IX, No.34, (1884), pp.170,175.

(62) An Introduction to Social Psychology, London, Methuen, 25th ed. (1943), pp.233,455.

An Outline of Psychology, London, Methuen, (1923), pp.219,268.

"Egoistic hedonism", "Empirical hedonism" and "Deductive hedonism". To him there seemed to be no difference between these types of hedonism; in content all these kinds rely upon "impulsive actions",⁽⁶³⁾ which might turn to be against the ethical doctrines. In point of fact, psychological hedonism was a target for McDougall's⁽⁶⁴⁾ later criticisms. As has been pointed out, Sidgwick's philosophical contentions seem to have much in common with McDougall's subsequent philosophical and psychological arguments.

Carveth Read is another thinker, whose views on Psychology may be regarded as an extension of other authors like Hume, the Mills, Sidgwick and others. His psychological ideas are scattered throughout his philosophical arguments.⁽⁶⁵⁾

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- (63) (1) "Hedonism and Ultimate Good" Mind, Vol.II, No.5, (1893), p.33ff.
- (11)—"Unreasonable Actions", Mind, N.S., Vol.II, No.6, (1893), pp.174ff.
- (111) Practical Ethics, London, (1897), Ch.IX.
- (64) An Introduction to Social Psychology, op.cit., pp.7,12,14,313.
- (65) (1) See: The Metaphysics of Nature, London, Adam and Charles Black, (1905).
- (11) Natural and Social Morals, London, Adam and Charles Black (1909).
- (111) "On the Difference Between Percepts and Images" Brit.J. Psych., Vol.II, part 4, (1908).
- (1v) The Origin of Man and of his Superstitions, London, Adam and Charles Black, (1920), 2nd ed. in 2 vols, (1925).

Briefly, the main topics that he dealt with comprise :

(i) Consciousness, (ii) sensations and images, (iii) mind, (iv) character and will, and so forth. As a phenomenalist, Read's discussions of such subjects were in the main speculative, metaphysical and ontological. It is the manner in which he emphasised the topics discussed that makes his arguments worthwhile.

2. Dedicated Psychologists.

In this connection, reference should be made to some other leading figures, who, each in his own way, did contribute to the development of Psychology. The names of Graham Wallas (1858-1932), Charles E. Spearman (1863-1945), Charles S. Myers (1873-1947), James Drever (Snr), (1873-1950), and John Carl Flugel (1884-1955), are eminent. The reasons why they are mentioned here are : (1) They had been colleagues and/or students of McDougall, and were enormously influenced by him. The impact that McDougall's discussion left upon them can be easily traced in the numerous works of these psychologists. (2) They concentrated chiefly on psychological observations and welcomed empirical evidence. (3) Added to McDougall's heroic endeavours, their efforts as a whole contributed to the development of Modern British Psychology in

particular, and, it can be said, to Psychology abroad.

(4) It is apparent that some of McDougall's views are well preserved and ably explained in the arguments contained in their works to which reference is so often made throughout the present study.

In order to present a full picture of modern psychological developments, mention must also be made of Alexander Faulkner Shand (1858-1936). His investigations⁽⁶⁶⁾ are of special interest, largely because they included certain aspects of human psychology, namely, sentiments and character.

Shand indicated three constituents of human character, namely, "instinct", "emotion", and "sentiment". The three terms correspond to three levels of mental development: (1) of the animal, (11) of the child, and (111) of the human adult. Such a type of division could be condoned as following steps of an evolutionary scale. The first of these stages is rather rigid, because the intellect has but little influence in its organisation. The second is

(66) See Shand's : The Foundations of Character, (1914), 3rd ed., (1927), London.

transitional in character, because it merely links two different phases in developmental life. In its scope, the final stage is more plastic and almost complete in organisation.

It is obvious that Shand has been influenced by John Stuart Mill's arguments contained in System of Logic. He quoted⁽⁶⁷⁾ Mill's formulation of "empirical laws" which depend upon experience, and "causal laws"⁽⁶⁸⁾ which are not universally true to Shand. Yet he did accept Mill's "laws of Mind",⁽⁶⁹⁾ and he did follow, to some extent, Mill's "Ethology, the science of the Formation of Character".⁽⁷⁰⁾ Shand's first law which he regards as a salient feature of character, postulates that "mental activity tends, at first unconsciously, afterwards consciously, to produce and to sustain system and organisation".⁽⁷¹⁾ Unlike the laws of association, Shand thinks ~~the laws~~^{*} ~~of mind are not ready at~~

(67) The Foundation of Character (1914), p.13.

(68) J.S.Mill, System of Logic, Book III, Chapter XVI.

(69) ibid, book VI, Chap.IV. (70) ibid, book VI, Chap.V.

(71) op.cit., p.21.

* Shand formulated (144) laws altogether.

hand; They ought to be found.⁽⁷²⁾ According to Shand there are in every human being two antagonistic forces or activities: the one making for organisation, the other aiming at disorganisation; these two opposite aspects he called "sentiments" and "emotions". Despite the theoretical distinction between these two kinds of force, and the immense significance of their effects on character, they are in one respect identical; both pursue ends, and select the means to them. Both are systematic.⁽⁷³⁾ "The general fact concerning our conative activity is", he wrote, "that it tends in all its manifestations to form some degree of organisation. Form being directed to ends, neither the stream of ideas, nor the field of perception, wholly preserves the chance-order which, apart from this organising activity, it would exhibit, but approximates to a systematic order, as a condition of fulfilling the ends pursued".⁽⁷⁴⁾ The significance of this citation lies in its affinity with McDougall's purposive⁽⁷⁵⁾

(72) cf. Mill's Logic "The Laws of Mind", book VI, Ch.IV.

(73) ibid, p.20.

(74) ibid, p.21.

(75) (1) The Foundations of Character, op.cit., p.27.

(11) see also Shand's article "The Unity of Consciousness" MIND, Vol.XII, No.50, (1888).

(111) see also his article "The Nature of Consciousness" MIND, Vol.XVI, No.62, (1891).

and hormic views. The conative action is always ^{functioned} by the organism as a whole. The goals sought could be attained only when (a) there is a foresight implied in the activities fulfilled, (b) the acts done are accompanied by a certain degree of modification. (c) Like McDougall, Shand spoke of "systematic order" of "ends pursued", of determined and free-willed "conations".

Concerning instincts, emotions, and sentiments, Shand had his own views, which sometimes led to much controversy with McDougall. To Shand, the instincts of flight and concealment, for example, involving so many co-ordinated movements for the fulfilment of their end, are a part, and at first the largest and principal part, of the emotional system of fear, as furnishing the hereditary methods of behaviour by means of which the system may achieve its end.⁽⁷⁶⁾ "Every sentiment tends to include in its system all those emotions that are of service to its ends, and to exclude all those which are useless or antagonistic".⁽⁷⁷⁾ This is one of the laws of the system of sentiments. For as in the body, there are certain

(76) The Foundations of Character, op.cit., p.27.

(77) ibid, p.62.

"anabolic" and "katabolic" processes in constant operation, the one building up and the other breaking down its organic structure. So too, in the character, there are certain tendencies working toward a higher form of organisation, and others working toward a lower form of organisation. Basing his view on such a belief, Shand formulated his other law of sentiments : "In the growth of character, the sentiments tend with increasing success to control the emotions and impulses; in the decline of character, the emotions and impulses tend with increasing power, to achieve their freedom".⁽⁷⁸⁾ The sentiment, therefore, is a dominant factor in the build-up of the hierarchy of character; and it is, at the same time, a regulator which maintains the balance between the antagonistic elements. This then, leads up to the conception of character in which the first confusion of its diverse kinds of constituents is reduced to order.

In an article on attention in MIND⁽⁷⁹⁾ (1894), Shand referred to what he called "duality of consciousness". He distinguished between attention proper, and its object.

(78) ibid, p.62.

(79) "Analysis of Attention" MIND, N.S., Vol.III, No.12, p.465.

This distinction involves duality of constituents which are referred to as above. According to Shand, attention is independent of "sensory accommodation" which is an arrangement for intensifying and detaining sensation.⁽⁸⁰⁾ Throughout his article, Shand insisted upon three ideas : "The first is, that the predominant clearness in which attention consists cannot be found universally in the clearness of the ideas or sensations attended to, or in the process which effects this clearness. The second is, that it can only be found in our awareness of them, as an additional constituent, not identical with sensations, nor capable of being resolved into or abstracted from them. The third is, that this constituent is at any moment at which it is real and actual as much directly felt and experienced as sensation".⁽⁸¹⁾ Shand thinks that psychologists are generally agreed that "feeling", "thought" and "conation" are inseparable constituents of all mental states.⁽⁸²⁾ Thought in a broad sense is defined as consisting in "objective reference". Feeling is distinguished from it because it

(80) ibid, p.452.

(81) ibid, p.473.

(82) "Feeling and Thought" MIND, N.S., Vol.III, No.28, (1898), p.477.

involves no "objective reference".⁽⁸³⁾ As such they are, therefore, antithetical. But their antithesis does not rule out their intimate relation which is inherent in consciousness. There is no unconscious such as seems to precede our clear discrimination. There is no feeling present that we do not consciously discriminate. "The moment before we discriminated this feeling it was non-existent; and that which constrained our thought, so that we had no choice but to discriminate this feeling, was the brain-change which caused it".⁽⁸⁴⁾

However, Shand set himself the task of showing what are the components of human character, what relations obtain between them, and how they are in turn related to the unity of the whole person. The concept of sentiments he used to refer to an organised system of emotional tendencies centred around an object. The laws of mind are the laws of character. Character is the more stable according as it is based on well organised sentiments. His discussion throughout has been concerned mainly with character which is a sequence of its constituents, namely, instincts, emotions, impulses and sentiments. However, he is criticised by A.A.Roback⁽⁸⁵⁾ for

(83) ibid, p.479.

(84) ibid, p.485.

(85) The Psychology of Character, London, Kegan Paul, (1931), p.19; see also : Al-Bassam, A.A., A Study of Character Traits in School Children, Unpublished Ph.D. Thesis (1951), in the library of London University, p.15.

his reliance on literature. This criticism seems to be fair and justified. He may also be criticised on other grounds, e.g. (i) He was not precise as to what he meant by certain words such as "Mind", "noetic consciousness", and the like. He did not clarify fully the real meanings implied in such terms. It may be said that Shand lacked the clarity that often accompanied the discussions of writers such as, for example, Stout, McDougall, and others. (ii) He did not introduce as an alternative, a definite list of instincts which he criticised. True to say, he did discuss some of the instincts, but he was not thorough enough. (iii) His argument regarding the relation of instincts and emotions appears to be rather vague; he was not quite clear as to how he conceived of their dependence upon each other.

----- The series may not be complete without referring to Sir. Cyril Burt (b. 1883). As a student of McDougall at Oxford, he doubtless was influenced by his teacher. In fact, he appears to have enthusiastically adopted and defended most of McDougall's views, especially the doctrine of instincts and the structure of personality.

The investigations⁽⁸⁶⁾ which Burt carried out at McDougall's suggestion, and with the assistance of J.C. Flugel, another pupil of McDougall's, were some years later published in his first famous article "Experimental Tests of General Intelligence".⁽⁸⁷⁾ Burt's own words of that article were "The experimental determination of the mental characters of individuals is admittedly a problem of wide theoretical interest and of vast practical importance".⁽⁸⁸⁾ The mental character which Burt regarded as supreme is "General Intelligence". He has adhered to this central problem throughout his professional life. The essential aim of his early investigations was "to determine whether higher mental functions would not show a closer connexion with general

(86) (1) Valentine, C.W., "Cyril Burt : A Biographical Sketch and Appreciation" in : Studies in Psychology Presented to Cyril Burt, ed. by Banks, C. and Broadhurst, P.L., University of London Press, (1965).

(11) Burt, C., "An Autobiographical Sketch" in Occupational Psych., Vol.XXIII, (1949), pp.9-20.

(87) B.J.Psych., Vol.III, parts 1 and 2, (1909).

(88) ibid.

intelligence than was shown by simpler mental functions, such as sensory discrimination and motor reaction", with which previous investigators had been so largely occupied. In his attempt lies the germ of group intelligence tests; and his contentions seem to have proved worthwhile. The positive results he obtained encouraged him to devise more tests such as "analogies", "sentence formation", "reasoning" and the like. Such tests were "capable of application to large numbers of children at once" and "capable of application by teachers untrained to any considerable degree in a psychological laboratory".⁽⁸⁹⁾ As a result of factorial studies, Burt came to define intelligence as "innate", "general cognitive efficiency".⁽⁹⁰⁾ But his stressed warning was that this should not be carried too far. For it is too often forgotten that every test of intelligence is also a test of emotion. "A neglect of the emotional aspect of an examination of intelligence may send many a normal child to the special school as mentally deficient".⁽⁹¹⁾

(89) B.J.Psych., Vol.III, (1909), op.cit.,

(90) Mental and Scholastic Tests, London, Staples Press, 2nd ed., (1947), 1st publ. 1921.

(91) ibid, p.16.

The twin parts of aspects of the mind - intellectual and emotional - Burt made the basis of the treatment in The Young Delinquent (1925).^{*} Indeed, the actual classification of many different types of delinquency was in fact based upon McDougall's system of Instincts. He ascribed delinquency in the young to the emotional disturbances which may come from the environment of the child.⁽⁹²⁾ He, of course, does not rule out the role of heredity. "Heredity and environment may each do their sinister share".⁽⁹³⁾ They are both complementary . Dealing with emotional disturbances as factors leading to delinquency, Burt tended to base his treatment on an inherited basis. This he thinks is instinct. His suggestion has been that "the commoner delinquencies committed by the young are apparently either the direct expression of a few primitive and universal impulses which seem to have been handed down to us as part of our instinctive equipment, or else modified reactions elaborated out of, but still ultimately springing from, these cruder modes of emotional response".⁽⁹⁴⁾

* 4th ed. 1944, reprinted 1948.

(92) The Young Delinquent, Ch.III.

(93) ibid, p.63.

(94) (1) ibid, p.422.

(11) See also his ; How the Mind Works, ed. by Cyril Burt, "How the Mind Works in Adults" 1st ed. (1933), 2nd ed.

The implications from the above quotation indicate clearly that Burt having from the first accepted McDougall's views, appears to have been confirmed in this position as the years went by. In the symposium "Is the Doctrine of Instincts Dead ?"⁽⁹⁵⁾ (1941), he emphatically restates the same fundamental viewpoint. In his discussion of the aberrations of the young, Burt assumed a biological as well as a psychological line.

Among other Psychological topics, Burt appears to have been interested in the following items:

1. He is always interested in the results of testing, both theoretical⁽⁹⁶⁾ and practical.
2. His interest also centred round the ways and means of selecting the exceptional child for the award of scholarship.⁽⁹⁷⁾
3. He is concerned with finding the suitable lines that divide between normal children and those who need special schooling.⁽⁹⁸⁾
4. He intended to verify the hypothesis of the general educational⁽⁹⁹⁾ ability. Burt's consistent view, at any rate,

(95) B.J.Ed.Psych., Vols. XI-XIII (1941-1943).

(96) See : Mental and Scholastic Tests, London, Staples Press, 2nd ed., (1947), 1st published in 1921.

(97) See : "The Principles of Vocational Guidance", B.J.Psych., Vol.XIV, part 4, (1924).

(98) See : The Backward Child, University of London Press, 2nd ed, and revised ed. (1946), 1st published in 1937.

(99) See : The Factors of the Mind, University of London Press, (1940).

is to secure "an empirically ascertained simplicity"⁽¹⁰⁰⁾ in Psychology. For "to choose tests or traits almost at random, and note the simplicity of the resulting correlational pattern, can mean little or nothing, except that the choice was nearly random". But, "to select tests or traits ... according to some definable principle, and then show that a simple formula will summarize the results, may mean something: it provides at least a presumption that we have perceived what was relevant and eliminated what was irrelevant".⁽¹⁰¹⁾ His aim is to draw up in outline what is called a "psychographic scheme" : that is, to distinguish in each individual (1) intellectual and emotional characteristics, (2) inborn and acquired characteristics, and (3) general and specific factors.⁽¹⁰²⁾ Factor analysis and the mathematical and logical foundations of factor analysis have been his major interests; but the basic motivation of behaviour, be it normal or delinquent, is for Burt, essentially that of McDougall.

(100) ibid, p.27.

(101) ibid, p.27.

(102) The Subnormal Mind, Oxford University Press, (1955), p.22; 1st published in 1935.

Along with other notable psychological statisticians such as Galton, Carl Pearson, Spearman, Godfrey Thomson - to mention only a few - Burt has ^{planned} done a unique part in establishing the subject on a scientific basis, both in Britain and abroad. The impact McDougall left on present psychological thought may be easily seen through the writings and discussions of Burt and other students of McDougall. In Burt's works, at least two areas in particular clearly show McDougall's influence : (1) surveys of physical and mental characteristics; (11) the application of the Mendelian genetics to the study of mental inheritance⁽¹⁰³⁾ - both of which fields were at the focus of McDougall's attention.

(103) See for example, Burt's following articles :-

- (1) "Heredity and Intelligence" (with M. Howard), B.J.Statist.Psych., Vol.X, (1957), pp.33-63.
- (11) "The Relative Influence of Heredity and Environment on Assessment of Intelligence" (with M. Howard), idem, pp.99-104.
- (111) "The Distribution of Intelligence" B.J.Psych., Vol.XLVIII, (1957), pp.161-175.
- (1V) "The Inheritance of Mental Ability" Eugen.Review. Vol.XLIX, (1957), pp.137-141.

In a word, Burt, to quote C.A. Mace,⁽¹⁰⁴⁾ "is a psychologist in the tradition of Francis Galton, not only in advancing the development of statistical methods in psychological enquiries, but in showing Galton's interest in answering the question rather than in formulating laws or methodological principles".

3. Physiological Psychologists.

Discoveries of fundamental importance to Psychology were made by a number of eminent physiologists; notable among them were William Halse Rivers (1864-1922), Sir Henry Head (1861-1940) and Sir Charles Sherrington (1857-1952). It was Rivers, in particular, who showed much interest in psychology. Before discussing his main views, it may be appropriate now to indicate briefly Sherrington's and Head's physiological contributions to Psychology.

Sherrington's arguments are incorporated mainly in his well known book, The Integrative Action of the Nervous System⁽¹⁰⁵⁾ (1906), of which it is said⁽¹⁰⁶⁾ that "no single

(104) "Causal Explanation in Psychology" : Studies in Psychology, op.cit., p.27.

(105) Another ed., (1948), Cambridge University Press.

(106) Boring, E.G., op.cit., p.492.

volume had stimulated physiological psychology so much as this one". By way of summary, Sherrington's salient achievements are : 1. Clarification of the nature of reflex actions. He was the first to provide experimental evidence for what is called in modern terminology "feed-back" in the nervous system. It is a mechanism in muscles which plays a large part in the regulation of posture and movement.

2. Sherrington corrected the James-Lange Theory of emotions; according to which, emotion is a derivation of visceral and vascular changes. After extensive studies, Sherrington came to the conclusion that the visceral expression of emotion is secondary to the action occurring within the psychological state.

3. A direct contribution that Sherrington made to modern psychology is apparent in his principles of neural functioning, simple reflex, simple conduction, and so on. For as is well known, both behaviour and experience which Psychology attempts to explain are the results of the action of the nervous system at large. In short, Sherrington's chief contribution to psychology is best represented by his conception of the structure of the nervous system as a whole. In his above book, he referred with approval to McDougall's discussions of the seat of the psycho-physical processes, synoptic functions, and the like.

Head's⁽¹⁰⁷⁾ main services to Psychology lie essentially in his work on sensibility. Prior to his investigations little was known of the exact distribution of the areas of abnormal sensibility. His observations have proved so accurate that they have become widely known as "Head's areas".⁽¹⁰⁸⁾ He devoted considerable time to the study of aphasia and other disorders of speech. He distinguished four types of aphasia, namely, (i) verbal aphasia, (ii) syntactical form, (iii) nominal type, and (iv) semantic defects. These four kinds he linked with mental disturbances. This is another major contribution to modern psychology. He introduced the conception of "schemata",⁽¹⁰⁹⁾ which has come to have a big role in British Psychology. The doctrine was formulated to explain the capacity of the normal human being to appreciate bodily position and the direction of bodily movement. This may be considered as complementary to the work begun by Sherrington. Head's researches on the effects of lesion in peripheral

(107) Studies in Neurology, (1920), vol.2, pp.604-7.

(108) Obituary Notices of Fellows of the Royal Society, (1939-1941), vol.3, p.668.

(109) (i) ibid, p.681.

(ii) Oldfield, C. and Zangwill, O.L., Brit.J.Psych., Vol.XXXII (1942), Vol.XXXIII (1943).

sensory nerves later became the classical experiment which distinguished between "protopathic" and "epicritic", cutaneous sensibility. In the course of these latter studies, Rivers was associated with, and influenced by Head.

It was at Cambridge that McDougall first met Rivers⁽¹¹⁰⁾ as a student. It is ironical enough to find that later McDougall could influence his teacher to change and modify some of his views concerning the concept of instinct.

In a prefatory note to River's "Psychology and Politics", G. Elliot Smith remarked that "Rivers approached the problems of politics and education and acquired that wider understanding of the range of psychology and sociology by way of ethnology".⁽¹¹¹⁾ On the psychology of politics, Rivers has this to say, "The first point on which to insist is that the science of psychology is still very young; in so far as concerns the kind of problem with which we are now concerned, it can hardly be said to be yet in its teens".⁽¹¹²⁾

(110) Myers, C.S., "The Influence of the late W.H.Rivers" in : Psychology and Politics, by W.H.R. Rivers, London, Kegan Paul, (1923), p.154.

(111) G. Elliot Smith, Prefatory note in Psychology and Politics, by Rivers, p.vi.

(112) Psychology and Politics, p.3.

In his lectures reported in this book,⁽¹¹³⁾ Rivers concerned himself with the question of instinct in relation to society. He tentatively defined instinct as "inherited disposition to behaviour".⁽¹¹⁴⁾ This in itself is a broad definition, because it implies the notion of purposive conduct and goal-seeking action, a theme that McDougall emphatically stressed. The definition also implies the mental make-up and the individual experience obtained in his environment.

In an earlier publication,⁽¹¹⁵⁾ Rivers endeavoured to explain the facts of behaviour on physiological and psychological bases. He pointed out that the relation between the cerebral cortex and the optic thalamus was found

(113) Psychology and Politics.

(114) ibid, p.29.

(115) (1) Instinct and the Unconscious, Cambridge Press (1920), p.22 and p.23.

(11) See also Brain, Vol.XXVIII (1905), pp.99, 116.

(111) Brain, Vol.XXI (1908), pp.323, 369.

to be similar to that existing between "protopathic" and "epicritic"⁽¹¹⁶⁾ sensibility. A third sort of sensibility he indicated, as "deep" sensibility: response to pressure and certain forms of movement. This reflects Head's influence on Rivers, as indicated above. He was much concerned about the individual's adjustment behaviourally; "In all cases we have to do with the means by which behaviour, whether of human being or animal, is adjusted to the needs with which man or animal is confronted".⁽¹¹⁷⁾ He found that experience which becomes unconscious through suppression either "belongs definitely to the affective aspect of mind, or when intellectual in character, has been suppressed on account of its association with affective elements".⁽¹¹⁸⁾ In this he tended to establish a relation between instinct and affect;

(116) (i) Instinct and the Unconscious, op.cit., p.27 and p.25.

(ii) Brain, Vol.XXXIV, (1911-12), p.102.

(iii) Brain, Vol.XVII, (1893), p.1.

(iv) Brain, Vol.XVII, (1894), p.339.

(117) Instinct and the Unconscious, op.cit., p.21.

(118) ibid, pp.37-38.

such a relation would suggest that the special function of the unconscious is to act as "a storehouse of instinctive reactions and tendencies, together with the experience associated with them, when they are out of harmony with the prevailing constituents of consciousness so that, when present, they produce pain and discomfort".⁽¹¹⁹⁾ The distinction between the behaviour of man as purely intelligent and that of brutes as merely instinctive, Rivers rejected as of "little value". Man's behaviour, he thinks, is far less subject to "reason and intelligence" than it was once supposed. The behaviour of even an insect is liable to flexibility and adjustment.⁽¹²⁰⁾

Reactions that take place in animals or man and happen in their full strength, Rivers called the "all-or-none"⁽¹²¹⁾ reactions; a term he adopted from E.D. Adrian.⁽¹²²⁾ The "all-or-none" principle he considered as a law of wide implications holding good for the relation between stimulus and

(119) ibid, pp.37-38.

(120) ibid, pp.40-41.

(121) (1) ibid, p.45, and p.71.

(11) Brain, Vol.XL, (1917), p.15.

(122) Journal of Psychology, Vol.XLV, 1912.

sensation, or between stimulus and reaction.⁽¹²³⁾ He rejected Fechner's formula that the sensation is proportional to the logarithm of the stimulus. According to Rivers, any such exact relation is "wholly absent in the case of protopathic sensibility". He stressed that there is no such exact relation between "the conditions setting an instinctive or emotional reaction into being and the strength of the reaction, at any rate in the child, or in the adult human being whose emotions have not been brought well under control by long training and practice".⁽¹²⁴⁾ He denied the existence of the relation in reaction in the case of the "extensor-thrust" or the "mass reflex".⁽¹²⁵⁾ River's aim in writing : Instinct and the Unconscious was, as he says, "to provide a biological theory for the psychoneuroses". In it, he distinguished the psychological from the physiological standpoint. He held that an exact correspondence holds between the inhibition of the physiologist and the repression of the psychologist. Throughout his work on Psychology he endeavoured to define precisely words that had hitherto been used ambiguously. He

(123) (1) Instinct and the Unconscious, op.cit., p.47.
(11) Brain, Vol.XIX, (1896), p.153.

(124) ibid, p.47.

(125) ibid, p.47.

defined "unconscious experience", for example, as that which is incapable of being brought into the field of the consciousness, except under certain conditions, such as sleep or hypnosis. He defined "repression" as the expulsion of experience from consciousness. He defined "suppression" as the "unwitting" process by which experience becomes unconscious.⁽¹²⁶⁾ Whether all River's psychological views are still valid or not is another matter, what is essential here is that his contribution to the science of modern Psychology is

(126) (1) ibid.

(11) C.S. Myers, "The Influence of the late W.H.R.Rivers" in Rivers's : Psychology and Politics, op.cit., especially pp.169ff.

(111) G. Elliot Smith, Preface in Rivers's Conflict and Dream, London, Kegan Paul, 1923.

(1v) W.H.R. Rivers : Conflict and Dream, op.cit.,

(v) _____, Medicine, Magic and Religion, London, (1927).

(vi) _____, Essays on the Depopulation of Melanesia, Cambridge (1922).

(vii) _____, History and Ethnology, London, (1922), See also Ch.VI.

"The Aims of Ethnology" in Psychology and Politics.

indisputable. His clear definitions of instinct and of consciousness can be ascribed mainly to McDougall's impact. It may be said, in fact, that Rivers wrote Instinct and the Unconscious, largely from a McDougallian point of view.

4. Conclusions :

It seems that psychological ideas were gradually built and completed from one thinker to another. It is true that British Philosophy adopted evolution and eventually purposivism. It is on such a foundation that modern British psychology has been built; but the study of Psychology departed from the philosophical province and followed more empirical lines. This has been so without, of course, dissociating itself from the original tradition which gave it its impetus. When reference is now being made to empirical Psychology, it is often called associative Psychology, largely because it based the essential principles of mental life on the association of ideas. Such a development seems to be a fundamental characteristic of British thought.

That certain sciences, such as Darwin's biology, enormously quickened the development of psychological schools generally, is now acceptable and both the evolutionary and empirical trends are apparent in the considerable impact of

modern studies of animal behaviour, particularly those associated with Ethology. Again, that Psychology can now speak with the accent of science, is in no small measure due to Darwin who influenced Galton. In turn, Galton's traces were left upon the works of Sully and Ward. The latter's arguments attracted and influenced Stout, whose impact upon McDougall was explicitly acknowledged; yet later on, McDougall influenced Stout. However, the conclusion that can now tentatively be drawn is that McDougall's purposive and hormic Psychology can be regarded as the natural outcome of, and brilliant assimilation of a multitude of ideas deeply rooted in a rich background.

CHAPTER IV

ORIGINS OF THE HORMIC THEORY AND

SOME DISTINGUISHED HORMISTS

1. Hormic and Holistic Psychologies.

Psychologists who maintain that the most important part of psychology has to be concerned with "motives", "purposes" and "urges" are usually described as "purposive" or "hormic" psychologists. The foremost representative and champion of this type of psychology was William McDougall. On the other hand, psychologists who insist on considering the individual as a whole are often termed "self-psychologists", "personalistic", or "organismic" psychologists. It is because of the emphasis that these psychologists place upon the person generally, that Woodworth has called them "holistic".⁽¹⁾

2. The Fact of Purpose.

The word "purpose" and its derivatives "purposive", "purposeful", "purposivism", and the like, are used in various contexts. "Purpose" may be used by the mechanical psychologists to describe even the action of a machine. On the

(1) Contemporary Schools of Psychology, op.cit., p.213.

other hand, it is employed by the vitalists to indicate a preconceived, goal-seeking behaviour, associated with awareness on the part of the organism. McDougall, for instance, had continued using the term in its latter connotation until later on he adopted the word "hormic". Afterwards, however, he used both words, more or less, synonymously. It seems that he was aware of the difficulties involved in the usage of the term "purpose", so this was why, among other reasons, he warned against "an exclusive devotion to the mechanical Psychology".⁽²⁾

Unlike some other writers such as H.C.Warren,⁽³⁾ for example, who selects as purposive what suits his argument and neglects facts that do not serve his purpose, McDougall saw that purposive activity is regulative and directional. As he wrote, "purposive activity is highly selective; that is one of its fundamental peculiarities which mark it off objectively from mechanical process. The organism, acting under the urge of a strong purpose, i.e. actively seeking a particular goal, not only selects whatever is relevant to its goal and goal-seeking, but neglects, is blind to, whatever is not relevant".⁽⁴⁾ This is

(2) "Purposive or Mechanical Psychology" Psych.Rev., Vol.30 (1923), pp. 273, 274.

(3) "A Study of Purpose", J.Psych. and Scientific Method, Vol.XIII, (1916).

(4) (1) Wm.McDougall, "Purposive Experience" Pedagogical Seminary Vol.33, (1926), pp.354, 353.

(11) _____, "Purposive Striving As A Fundamental Category of Psychology" Psychological Review, Vol.32, No.2, (1925), p.306; the same article is published in Rep.Brit. Association, (1924) pp.226-232.

McDougall's view. Whereas that of Warren is that no selectivity is thought of or attended to by the striving organism.

Alfred Sidgwick maintained that purpose has some relation to meaning. For him "truth" is purposive.⁽⁵⁾ To Woodworth, "Purpose is a real fact in human life, and, if not purpose, at least striving towards a goal is a real fact of animal life as well".⁽⁶⁾ H. Hoffding held that purpose is conditioned by the ideas, feelings and impulses occupying it.⁽⁷⁾ With Cyril Burt, the word "purpose" can be held to connote a consciously apprehended purpose, which he prefers to call "intention". For him the term makes a prediction: "it prophesies what is likely to be the result".⁽⁸⁾ This reflects exactly the notion advocated by McDougall, who was "the first psychologist to propose an objective meaning for the purposive aspect of behaviour".⁽⁹⁾ Konard Z. Lorenz⁽¹⁰⁾ upheld that

(5) "Truth and Purpose" MIND, N.S, Vol. XXXIII, No 132, (1924), pp. 388, 397.

(6) "Dynamic Psychology" Psychologies of 1925, ed. by Carl Murchison, op.cit, p.118.

(7) Outlines of Psychology, p. 328.

(8) "Is The Doctrine of Instinct Dead ?", A Symposium, B.J.Edu. Psychol., Vol.XI, part 3, Nov.1, 1941, p.160;
see also: J.C. Maxwell Garnett, "General Ability, Clearness and Purpose" B.J.Psych. Vol. IX, pp3 & 4, (1919), pp. 345-366.

(9) Dallin Bindra, Motivation: A Systematic Reinterpretation, N.Y., The Ronald Press Co. (1959), p.52.

(10) The Herring Gull's World, by N. Tinbergen, London, Collins (1953) foreword by Lorenz, p. x1

"much of the Beauty and Wonder of nature is based on the fact that organic life is directed towards goals". Again, Lorenz observed that when "the dog wants you to open the door or turn on the tap, what he does has the specific and purposeful motive of influencing you in a certain direction".⁽¹¹⁾ N. Tinbergen has spoken of "plant sociology", of "animal sociology" and in particular of "man sociology".⁽¹²⁾ In animal sociology there is always a sense of co-operation. "When we speak of co-operation", he writes, "we have always at the back of our minds an idea, clear or vague, of the purpose of this co-operation. We assume that it serves some end".⁽¹³⁾

Though the word "purpose" is sometimes used so broadly as to cover any activity directed to a definite end, it is often felt desirable to reserve it for cases where the individual has some "foresight"* of the end. Foresight depends on memory.

(11) King Solomon's Ring, London, Methuen (1959) 1st publ. 1952, p.82

(12) Social Behaviour in Animals, London, Methuen, (1959), pp 1-2.

(13) ibid , p.2

* Woodworth distinguished between foresight, insight and hindsight. The first is seeing the way to the goal before taking it; the third is seeing that a lead is good after trying it; the second is sometimes foresight and sometimes hindsight.

See Woodworth's : Psychology : A Study of Mental Life, 9th ed. (1948), 1st publ. 1922, p. 295.

The view at issue is held by writers like McDougall,⁽¹⁴⁾ Woodworth⁽¹⁵⁾ and R. Latta.⁽¹⁶⁾ The latter's specific view is that purpose differs from "intention" in being limited to the elements actually present to the mind. Taking this stand, Latta defined purpose as "a conceived course of action directed to a remote end".⁽¹⁷⁾ In keeping with this notion is R.H. Thouless's statement that "We are particularly inclined to give purposive explanations when what we observe is a variety of lines of activity which have in common the fact that they lead to a single goal".⁽¹⁸⁾ An example of this is the nest-building behaviour of birds. Both Latta's and Thouless's views are in conformity with McDougall's.

Views similar to those mentioned above, are every now and again expressed by different writers in various ways. Morris A. Copeland, for example, upheld that behaviour could be explained teleologically. The implications of such an interpretation

(14) "Purposive Experience" Ped.Sem. Vol.33, (1926), op.cit., p. 356, and elsewhere it will be shown later.

(15) Psychology, op.cit., p. 390.

(16) "Purpose", Proceedings of the Aristotelian Society, N.S., Vol VIII, 1907-1908, p. 17.

(17) ibid , pp 17-18.

(18) General and Social Psychology, London, Univ. T. Pr. (1958) 1st publ. (1925), p.54.

appear to involve the notion that the consequent is held to determine the antecedent. In Copeland's own words, "the end somehow selects or determines the response appropriate to bringing it about".⁽¹⁹⁾ The idea implied in such an explanation seems to be that the results affect the causes or initiate them. Whether such a view is acceptable or not is another matter; what really matters is that it represents a natural as well as an evolutionary point of view. Such a developmental position was also assumed by L.T. Hobhouse, who maintained that, "the paradox of organic action is that it carries out apparent purposes without purposing to do so ... it is adapted to the securing of results which we as spectators recognize as valuable to the organism, and yet we do not imagine it to be determined by any conception of these results".⁽²⁰⁾ Following the line of natural interpretation of purposive activity, G.C. Grindley⁽²¹⁾ explained that both in thought or in behaviour both men and animals usually direct their activities towards a goal or end.⁽²²⁾ Grindley has clearly pointed out, that his views are in line with McDougall's observations

(19) "Desire, Choice, and Purpose from a Natural-Evolutionary Standpoint", *Psych.Rev.*, July, (1926), Vol.33, No.4., pp. 247-248.

(20) Mind in Evolution, (1901) op.cit, p.126, see also by the same author : Development and Purpose (1913), op.cit,

(21) "The Natural Basis of Purposive Activity" Brit.J.Psych., Vol. XVIII, part I, October, (1927), pp. 168-9.

(22) ibid , p. 168.

expressed in An Outline of Psychology (1923). Grindley is of the opinion that the simple theories of the physiological basis of association, the simple "chain reflex" and "conditioned reflex" theories fail to explain the purposive nature of animal behaviour.⁽²³⁾ C. Judson Herrick has tried to show that some animal "reactions", such as the "typical tropism", "reflex" or "instinct", have both "a backward and a forward reference".⁽²⁴⁾ The forward reference is expressed biologically by saying that these activities are in general adaptive, that is, the activities serve and favour the preservation of the individual or the species. Herrick dwelt on explaining the function of "the forward reference of reflex and instinctive behaviour" without an adequate explanation of what he really meant by the "backward" reference.⁽²⁵⁾ Herrick, however, was more cautious than Tolman who chose to give the name purpose to any "toward-whichness" of behaviour".⁽²⁶⁾ But

(23) ibid , p. 168.

(24) "The Natural History of Purpose" Psych.Rev. Vol. 32, No 6, November, (1925), p.419; see also
Jennings, H.S., Behaviour of the Lower Animals, N.Y, Columbia University Press. (1931) 1st published 1906, pp. 265-274.

(25) ibid , pp. 419, 423.

(26) Tolman, E.C. "Behaviourism and Purpose" J. of Philosophy, Vol 22, (1925), pp. 36-41.

Tolman, at the same time, urged that animal behaviour and human learning should be envisaged in terms of goal-seeking (purpose), a set of innate or acquired initial explanatory impulses (initial cognitive "hunches"), and the acquisition of a set of final object-adjustments⁽²⁷⁾ (final cognitions).

By way of summary, the term "purpose" has been variably used by psychologists, philosophers and biologists. It has been sometimes used broadly and vaguely, at other times restrictively but clearly. The central theme of its implications, however, is that events rather than things or abstracts, dynamic tendencies rather than static entities or mechanical activities, are to be accounted for. A preconceived, directed behaviour purported to preserve the individual, the species or both, is its intrinsic connotation. The adjectival derivative, "purposeful" could mean : purposive, vitalistic, urging toward, spurring to activity, conative, conational, desiring, willing, wishing, volitional, consciously (or unconsciously) aiming at, energetic, pressing forward, striving for, self regulation, conscious regulation, goal-seeking, goal-envisaging, aiming at an end, and so on. All such derivations involve one and the same thing - serving the organism.

(27) "Purpose and Cognition : The Determiners of animal Learning"
Psych.Rev., Vol. 32, No.4, (1925) op.cit., p. 285.

3. The Influence of Two Systems.

Historically, Psychology from Descartes and Locke onward, reflected in the main the influence of two systems (28) - The Apollinian and the Dionysian. The one implies Mechanism, the other represents Reason. The two types have their origins in Greek Philosophy. The two systems appear to have dominated European culture all down the centuries. With the advent of the Renaissance the Apollinian view became more popular. It found support in Descartes's mechanistic physiology and in Newton's mechanical investigations. In the XVIIIth Century the Apollinian notion was much in vogue and Psychology tended to be influenced in this direction. John Locke, for example, took up Plato's word "idea" and the ancient theory of perception propounded by Democritus, and gave them a new meaning and explanation. Locke was followed by David Hume with the doctrine of association, which was taken over by David Hartley, as already indicated.

In the XIXth Century, the mechanical principles, however, were still in the air. They were increasingly developed by the Mills, by H. Spencer, and by Alexander Bain who, as

(28) (1) McDougall, William, "The Present Chaos in Psychology and the way out". J.Philos.Studies, Vol V, No.19, (1930), pp. 353-358.

(11) _____, An Introduction to Social Psychology, London, Methuen, 25th ed., (1943), pp. 488-492.

indicated above, seems to have amalgamated in his doctrine both the Apollinian and the Dionysian ideas, Subsequently, Psychology became experimental and more scientific. Even so, the Apollinian or the mechanical doctrine was still dominating the climate of thought in Britain, in Germany and in France, throughout the XIXth Century. Later on it arrived at what McDougall called "an impasse", and eventually ended in "radical behaviourism".⁽²⁹⁾

Contrasting sharply with the Apollinian standpoint is the Dionysian view. The notion implicit in the Dionysian teachings is that man should be regarded as part of Nature.⁽³⁰⁾ Within himself man can feel, though vaguely, a powerful nature in the form of "strivings", "cravings" or "urges" goading him towards certain goals. Such a hormic explanation is said⁽³¹⁾ to have been given its scientific formulation by Aristotle.

(29) J.Philos.Studies, Vol V, (1930), op.cit.

(30) (1) McDougall, Wm., J.Philos.Studies, Vol V, (1930) op.cit., pp 354-5.

(11) An Introduction to Social Psychology, op.cit., pp. 488ff.

(31) J.Philos.Studies, op.cit., p. 355.

Like the Apollinian principle, the Dionysian creed descended down the centuries affecting the trend of thought at many points. In the XIXth Century its revival found expression in the romantic movement of which William Wordsworth (1770-1850), Samuel Taylor Coleridge (1772-1834), and other nature poets were the mouthpieces. About the same time it flourished in the philosophical works of authors such as Dugald Stewart⁽³²⁾ (1753-1828), Francis Hutcheson⁽³³⁾ (1692-1752), and others. Elements of the Dionysian doctrine also appeared in Jeremy Bentham's psychological hedonism, according to which notion, pleasure and pain are the main motives of human action. Such an idea was later on decried by some writers, especially by McDougall who discarded it as absurd.⁽³⁴⁾

In the middle of the last century, a Dionysian line was followed by Schopenhauer, Von Hartmann, and others.⁽³⁵⁾ In the former's writings, the Dionysian notion is quite explicit in the way he stressed the importance of the Will, in emphasising

(32) Biographical Memoirs of Adam Smith, William Robertson, and Thomas Reid, Edinburgh (1811).

(33) See: British Moralists, ed by Selly-Bigge, L.A., Vol. I, Oxford, (1897), pp. 69-177.

(34) (1) An Outline of Psychology, London, Methuen, (1923), pp. 192, 193, 268.

(11) An Introduction to Social Psychology, op.cit., pp.14, 313.

(35) J.Philos.Studies, op.cit.

a "voluntaristic" or hormic psychology. Other thinkers like Stout, Külpe, Woodworth, and others, touched on a Dionysian, 'hormic' psychology proper.

However, a question could probably be raised as to how a Dionysian Psychology may differ from another which does not follow the same line. A constant answer can be found in McDougall's arguments; he was intent and almost consistent in his contentions. Indeed, he appears to have used the two words - Dionysian and hormic - synonymously. To him the two terms are inextricably dependent upon each other. So that, a hormic psychology based on a thorough Dionysian view, sees "the creative urge to activity as the common foundation of human and animal nature".⁽³⁶⁾ Still further, to McDougall, hormic psychology gives the name "instinct"⁽³⁷⁾ to the foundations of active nature within man and the animals. In point of fact, such a notion is basic to McDougall's teachings throughout. He seems to have adopted the idea because it tends to abolish the dichotomy between man and the other animals. According to this view, man is conceived of as having his roots deeply plunged in Nature, and the animals are no longer mere machines; but in their various grades, express the same powerful forces that are at work within man.

(36) ibid, p. 360.

(37) (1) ibid, p. 360.

(ii) An Introduction to Social Psychology, op.cit, p.459

Briefly, the Dionysian principle seems to have found its way into the works and arguments of many other writers. Eminent among them were S. Alexander, T.P. Nunn, G.F. Stout, H. Bergson, J. Dewey, Morton Prince, Burlton Allen, William James, Freud, Adler, Jung, the Gestalt Psychologists, J.S. Haldane, Jennings - to mention only a few - besides McDougall, who was the most determined upholder of the hormic theory.

4. A Consideration of Some Hormists.

Before examining McDougall's hormic theory at length, it may be desirable now to consider the position of some notable hormists, whose views directly affected McDougall's attitude.

To begin with, reference must be made to Samuel Alexander (1859-1938), who distinguished between mind and its object. In the perception of a tree, for example, a distinction must be made between the act of experiencing or perceiving and what is experienced or perceived. He sponsored "the separation of the mental and the non-mental".⁽³⁸⁾ He deemed it as useful to consider the ultimate characters of mind. Alexander rejected James

(38) J.C. Flugel, Studies in Feeling and Desire, London, Gerald Duckworth, (1955), p.51, see also pp. 19, 50.

Ward's* "Presentation"⁽³⁹⁾ as a third element of mind. The rejection has been based on the assumption that that factor is "non-mental" and "does not form a part of the psychosis".⁽⁴⁰⁾ "Psychology is directly concerned with the various intrinsic characters of the enjoyment itself",⁽⁴¹⁾ he writes, "and the so-called presentation, in any of the senses of that term, does not belong to it directly, but only indirectly as an indirect means of discerning the intrinsic character of the enjoyment". He recognised only "conation" and "feeling" as active parts of "the nature of mental acts".⁽⁴²⁾ For him the intrinsic characters of "the conational act" are clearly conceived in what he called the "content of the mental processes". This last expression means either of two things, "that with which the process is concerned" or it may mean "that of which the mental process is made".⁽⁴³⁾

* See Ch.III above.

(39) Alexander, S. "Foundations and Sketch-Plan of a Conational Psychology" B.J.Psychol., Vol IV, Parts 3 & 4, (1911) p. 239.

(40) Ward, James, "Psychology" Encyclopaedia Britannica, 11th ed. Vol XXII, p.554a(9th ed. XX, 44a).

(41) op.cit, p. 242.

(42) Alexander, S., op.cit, p. 242.

(43) ibid, p. 243.

It seems that S. Alexander has been consistent in his maintenance of the conational acts presented above. In (1920)⁽⁴⁴⁾ he reiterated the same view. He observed that "Any experience whatever may be analysed into two distinct elements and their relation to one another. The two elements which are the terms of the relation are, on the one hand, the act of mind or the awareness, and on the other, the object of which it is aware; the relation between them is that they are together or compresent in the world which is thus so far experienced".* Earlier, in (1907-1908)⁽⁴⁵⁾ he conceded that mental activity is "mental function in general". He pointed out the importance of the question of the consciousness of mental activity in general. Yet he recognised the difficulty or the impossibility of keeping this question altogether separate from "metaphysics or theory of knowledge".⁽⁴⁶⁾ He endeavoured to differentiate between active and

(44) Space, Time, and Deity, London, MacMillan, The Gifford Lectures (1916-1918), published, (1920), Vol I, p.11.

* The distinctness of these two elements was made clear in G.E. Moore's paper on "The Refutation of Idealism" in MIND, N.S. Vol XII, 1903.

(45) "The Nature of Mental Activity" A Symposium in Proc. of Aristotle Society, Vol VIII, p. 215.

(46) ibid., p. 215

passive mental processes. The former he regarded as "the self-realization of an idea, as an idea" ; the latter he considered as that which "goes with equivocal direction".⁽⁴⁷⁾ Both, however, are "curiously mingled in our experience".⁽⁴⁸⁾ Such views as those maintained above, Alexander expressed elsewhere.⁽⁴⁹⁾

In a symposium entitled "Is Mind Synonymous with Consciousness ?" (1888)⁽⁵⁰⁾, Alexander argued that "the mind is a thing in precisely the same sense as all other things, and that it is a peculiar and unique thing in the same way as other things are peculiar and unique". His contention is that mind is a name which "we give to the complex or unity of what we call mental states, just as the stone is the complex or unity of the states of

(47) ibid , pp 217, 218.

(48) ibid , p.218

(49) (1) "On Relations; And in Particular the Cognitive Relation"
MIND, N.S, Vol XXI, No.83, (1912), pp 305-328.

(11) "The Method of Metaphysics; and the Categories"
MIND, N.S. Vol XXI, No.81, 1912, pp. 1-20.

(111) "Some Explanations" MIND, N.S, Vol. XXX, No.120,
(1921), pp.409-428.

(50) Proc.Aristotelian Society, Vol I, No.I.

the stone".⁽⁵¹⁾ He emphatically stressed this view, namely, that "mind" is the unity of its states. For him, "consciousness" involves the element of attention. He agreed with Bosanquet, another contributor to the same symposium, that "consciousness" is for the most part, a scientific term. The phrase "states of consciousness" would hardly be intelligible to ordinary usage.⁽⁵²⁾ Knowledge, Alexander described as "a relation between two entities, a subject and an object" or a "consciousness" and a "thing". Consciousness is always "consciousness of something, of an object".⁽⁵³⁾ What he called mental activity is in the usual language of psychology, "conation". His thesis is that "consciousness is conation" and nothing else. It follows that "all consciousness is self-consciousness".⁽⁵⁴⁾

Alexander indicated two kinds of "Imagination", "reproductive" and "constructive".^{(55)*} With both these

(51) ibid, p.18

(52) ibid, p.20

(53) Space, Time, and Deity, op.cit, Vol.II pp.125,22,92,105.

(54) "The Nature of Mental Activity", A Symposium, Proc.Arist.Soc. Vol. VIII, (1907-1908) op.cit, pp.222-223.

(55) "On Sensations and Images" Proc.Arist.Soc., Vol.X, (1909-1910), p.13.

* This topic is suggested by G.F. Stout in a paper on "Are Presentations Mental or Physical ?". Proc.Arist.Soc., Vol.IX, (1908)-(1909), pp. 226ff.

constituents entering into its form, imagination has certain features which distinguish it from the corresponding process of perception. It remains for Psychology to expound the features at issue. Here, as elsewhere,⁽⁵⁶⁾ Alexander touched upon the distinctness between memory and perception. The former differs from the latter, as he thinks, in its relative incompleteness and inaccuracy. Moreover, memory differs from perception in the possible introduction of new features not present in the original. He ascribes to perception, objectivity and accuracy which the memory⁽⁵⁷⁾ lacks. Imagining an object is comparable to the physical act of "Turning round to see something behind our backs".⁽⁵⁸⁾ But he warned against taking the difficult cases as a guide, lest we should err. Thus he declared that our objects alike in "imagination" and "sensation" are "mental".⁽⁵⁹⁾

(56) (1) Space, Time and Deity, Vol.II, op.cit, p.83.

(11) "Science and Art" J.of Philo.Studies, Vol.V, No.20 (1930), pp.517ff.

(57) (1) Proc.Arist.Soc., Vol.X, 1909-1910, op.cit, p.13

(11) Space, Time and Deity, Vol.II, op.cit, pp.83ff, see also

(11.1) by the same author, "Space-Time" Arist.Soc. Vol. XVIII, 1917-1918, pp.410ff.

(58) Space, Time and Deity, Vol.II, op.cit, p.85.

(59) (1) ibid, p.86 see also

(11) G.F. Stout, "The Philosophy of Samuel Alexander" MIND, N.S. Vol.XLIX, No.193, 1940, pp.6,2,138,141.

In Alexander's view, science is a form of Art. Nevertheless, he did not mean that it is a sort of "fine art" in the strict meaning of the word. He meant that it is "one example of a process of which fine art is the most obvious example, the process of making out of certain materials a result into which the mind itself enters".⁽⁶⁰⁾ In this article too, he pointed out again that the mind establishes coherence amongst the facts of perception by means of laws obtained through selection and reflection. He contends that the mere laws of the science do not themselves constitute a self-contained and harmonious whole. "The raw material, whether presented in perception or in thought ... is carried into the product, only organized and rearranged".⁽⁶¹⁾ The object which Alexander sought in this article was to point out the artistry of science and to indicate that science differs from fine art. In another paper,⁽⁶²⁾ Alexander asserted that "the artist can help the philosopher more than the philosopher can help the artist". Yet the link between

(60) (1) "Science and Art" J.Philos.Studies, Vol V, Part I, No.19, (1930), p.331.

(11) "Art and Science" J.Philos.Studies, Vol.I, No.I, 1926, pp. 5-19.

(61) "Science and Art I" J.Philos.Studies, Vol.V, op.cit, p.352.

(62) "Philosophy and Art" J.Philos.Studies, Vol.IV, No.14, 1929, p.157.

them is "the critic" or "historian" of art. But the specific question which philosophy asks about art is, "What is beauty, or what it is which makes an object, whether of art or of nature, beautiful?"⁽⁶³⁾ For he believed "the study of beauty is ... the best or the easiest way to approach the study of value in general".⁽⁶⁴⁾ Toward this purpose he dedicated his whole : Beauty and other Forms of Value (1933) as a main essay in Aesthetics. The realm of values comes directly from the province of ^{the} mental sphere. Values, according to Alexander, among all emergent qualities are the only ones which are not objectified.⁽⁶⁵⁾ In his Moral Order and Progress (1891),⁽⁶⁶⁾ Alexander intended to show that Ethics is but the study of moral judgements which imply

(63) (1) ibid, p.160.

(11) See also by the same author "Is There Evidence of Design in Nature ?" A Symposium Arist.Soc., Vol.I, Part 3, (1890), p.65.

(64) Alexander, S., Beauty and other Forms of Value, London, MacMillan, (1933) preface, p.VI.

cf. The Author's : Philosophical and Literary Pieces, ed. post humously, John Laird, London, MacMillan (1939).

(65) Beauty and other Forms of Value, op.cit.

(66) 2nd ed. London, Kegan Paul, Ch.1.

certain working conceptions. Ever since he wrote this work, he consistently pointed out the relation between morality and consciousness. He indicated that moral action is conscious of its object. (67)

Alexander's views are wide in scope and much detailed in discussion. In his theorisation, he covered philosophical issues as well as psychological topics. His philosophy is based mainly upon the theory of knowledge and metaphysics, the central element of which is implied in his well known doctrine of Space-Time, which underlies all his system. Like many other philosophical psychologists, Alexander endeavoured to discuss and understand Psychology in the light of Philosophy. The essence of his Psychological arguments is that the entity of mind should be emphasised. Such an entity is apparent in the form of conation and feeling, which are the real elements of mental process. The oddity about his argument is his exclusion of cognition from mental functions; he believed that it is not a part of the contents of the mind and has no role at all. In so thinking,

(67) (1) Moral Order and Progress, op.cit, Book I, Ch.I, pp.31ff.

(11) Alexander, S. "The Basis of Realism" Proceedings of The British Academy, Vol.VI, 1914, pp.279-314, see especially pp.281, 296, 313 ; for S. Alexander "MIND" is "always a world; its objects always fragments". Further "Mind as thing and as character".

See also (1) Obituary notice by T.H.Pear in B.J.Psychol. Vol.XXIX, part 4, (1939) entitled "Professor Samuel Alexander"; and (11) "Memoir" by John Laird in S. Alexander's Philosophical and Literary Pieces, op.cit, pp. 1-96.

he seems to have parted company with the more orthodox thinkers such as, for instance, Ward, Stout, McDougall, and others.

However, another feature of Alexander's psychology, is that mind should be differentiated from its object, which is realised only through mental activity. His hormicism is best reflected in the stress he placed upon the active elements of mind. His main interest centred chiefly round the conational process of the mind itself. He frequently indicated that a completely conational psychology is quite possible. Perception can be resolved into act and external things. Such arguments Alexander presented with simplicity and in his day, with notable skill.

It is said⁽⁶⁸⁾ that the first, in England, to formulate the characteristic doctrines of the New Realism was Thomas Percy Nunn (1870-1944). Best known as an educationalist, Nunn wrote little on philosophy. Yet that little had an influence that perpetuated his name. In particular, his contribution to a symposium on "Are Secondary Qualities Independent of Perception ?"⁽⁶⁹⁾ was widely studied both in Great Britain and in America.⁽⁷⁰⁾ He there sustained two theses : (1) that both the

(68) Passmore, John, A Hundred Years of Philosophy, op.cit, p.259

(69) Proc.Arist.Soc. Vol.X, 1909-1910. pp.191-218; the other symposiast was F.C.S. Schiller, pp.218-231.

(70) Passmore, John, op.cit, p. 259.

primary and the secondary qualities of bodies are really in them, whether they are perceived or not; (2) that qualities exist as they are perceived. Much of his argument, however, is controversial in form, compared with Stout's earlier articles⁽⁷¹⁾. Stout had thought he could begin by presuming that there are at least some elements in our experience which exist only in being perceived. As an example, Stout mentioned "pain". Nunn opposed that pain presents any difficulties to us, or creates obstacles in our path. "Pain" he concluded, "is something outside my mind, with which my mind may come into various relations".⁽⁷²⁾

Stout also had contended that the secondary qualities exist only as objects of experience. If we look at a buttercup in a variety of lights we see different shades of colour, without having any reason to believe that the buttercup has altered. If a number of observers plunge their hands into a bowl of water, they will report very different degrees of warmth, even although nothing has happened which could affect the water's temperature. Such phenomena, according to Stout, demonstrate that secondary qualities exist only as objects of our perception; they

(71) Stout's papers are "Primary and Secondary Qualities" (1903), and "Are Presentations Mental or Physical?" (1908) both in *Proc. Aristot. Soc.* Vols, V and IX respectively.

(72) Proc. Arist. Society, Vol. X, 1909-10, op.cit, pp.191-218.

are not actual properties of physical objects.⁽⁷³⁾

Nunn's argument is quite different. The contrast between the object of perception and the actual properties is, he thinks, an untenable one. All the shades of colour which the buttercup presents to an observer are actual properties of the buttercup; and all the "hotnesses" of the water are properties of the water. The fact is, Nunn thinks, that a thing has not one "hotness", for example, but many, and that these "hotnesses" are not in a limited region of space but in various places around about the standard object. A thing is hotter an inch away than a foot away and hotter on a cold hand than on a warm hand.⁽⁷⁴⁾ Nunn's position, however is accepted by S. Alexander with much reservation.⁽⁷⁵⁾

Throughout a period extended from 1906 to about 1916, Nunn maintained the same and one theme, namely, that
(76)
"Natural science is an intellectual process directed towards nature".

(73) Stout's two papers (1903) and (1908) op.cit.

(74) (1) Nunn, op.cit., pp.191-218.

(11) See also Nunn's "The Place of Hypotheses in Science Teaching" in Broad Lines in Science Teaching, ed. by F.Hodson, London, Christophers 2nd ed, (1911), 1st publ. 1909. pp.64-79. see especially, p.78.

(75) Alexander, S., Space, Time and Deity, Vol. II, op.cit., pp. 187-188.

(76) (1) Nunn, T.P. "Scientific objects and Common-Sense Things" Proc.Aristot.Soc. Vol.XXIV, 1923-24, p.2.

(11) "Sense-Data and Physical Objects" Proc.Aristot.Soc., Vol XVI, 1916, pp.156-178.

His views were first formulated in a paper⁽⁷⁷⁾ wherein he indicated that his aim was a two-fold one: first to make an inventory of the observable things and events that constitute the tissue of nature; and secondly to make the emergence of those things and events intelligible. In other words, he endeavoured to show that man ought to have an intellectual control over nature which must be subdued to his reason, these views which he first initiated he continued to elaborate and defend.⁽⁷⁸⁾ The doctrine which he accepted declares that a thing is "a structure embracing and actually consisting of all the sense-data, sensibilia, sensa, or sense-objects which common-sense regards as appearances or qualities of the thing and which are presented to any percipient at any time or place".⁽⁷⁹⁾ This view he based on two facts: (1) that sense-experience contains as an integral element a direct announcement that its objects are outside and independent of the mental act; (2) that analysis can discover in things nothing except "sensa" and their forms of connection.⁽⁸⁰⁾ A brief quotation, however, will be the best means

(77) (1) Proc.Aristot.Soc. 1905-1906, Vol.VI, pp.141-182.

(11) Nunn, T.P. "Anthropomorphism and Physics" Proc.Brit.Academy, (1927), Vol.XIII, pp.13-45, especially, p.20ff.

(78) Nunn, T.P., The Aim and Achievements of Scientific Method London, The MacMillan Co., (1907).

(79) Proc.Aristot.Soc. Vol.XXIV, 1923-24, op.cit, p.7

(80) ibid, pp.7-8

of summarising the whole thesis he put forward: "the real achievement of science is not to have disclosed any reality behind the veil of sensible things, but to have greatly extended and deepened and rationalised the scheme of the world revealed in perception."⁽⁸¹⁾

It is time now to consider briefly Nunn the educationalist. For him "the education that aims at fostering individuality is the only education 'according to nature'." He made it his theme to allow individuality to grow within society. He was aware at the same time that neither should encroach upon each other. "Individuality is an affair of the whole organism or 'body-mind'⁽⁸²⁾." In a chapter entitled "The Aim of Education",⁽⁸³⁾ Nunn reckoned to find a solution in philosophical theories, especially, it may be presumed in new realism. He defended individuality as a supreme aim of an educational process. "Educational efforts must", he upheld, "... be limited to securing for every one, the conditions under which individuality is most completely developed".⁽⁸⁴⁾ Only so allowed and encouraged, the individual can contribute his or her mite to the "variegated whole of human life" as fully and as truly characteristic as "his nature

(81) (1) ibid, p.18. see also:

(11) Proc.Arist.Soc. Vol X, 1909-1910, op.cit, p. 205.

(82) Nunn, T.P. Education: Its Data and First Principles, London, Edward Arnold, 2nd ed. (1934), 1st publ. 1920, p.20, See also pp. 2, 3, and 4.

(83) The first chapter in his book above.

(84) ibid, pp.5-6.

permits".⁽⁸⁵⁾ Nonetheless, the sort of contribution is in no way being imposed on the individual. It is left up to him or her to forge out for himself or herself.

Similar views Nunn discussed elsewhere.⁽⁸⁶⁾ He raised the following question: "What is it ... that determines the general character of the education process at a given point in the history of a human society ?". His answer to this question may briefly be represented by a concise citation that "the same elan vital which brought the society "to a certain point of development "urges it to train its young that they may maintain its tradition and ways of life",⁽⁸⁷⁾ and as a corollary to this, that "the education a nation gives its children is, perhaps, the clearest expression of its ethos and the best epitome of its scheme of life".⁽⁸⁸⁾

Psychological excursions have had prominent place in Nunn's arguments almost throughout. He discussed the individual's awareness of the conscious activities. Such activities are regarded as an element of "drive", "urge" or felt

(85) ibid, p.6

(86) "The Education of the People" Rep.Brit.Assoc. (1923), pp.261ff.

(87) ibid, pp.261-262.

(88) (1) ibid, p.262; see also p.321. "On General Teaching".

(11) see also by him on Education : in Rep.Brit.Assoc, 1926.

tendency towards an end.⁽⁸⁹⁾ To this element of drive or urge, which psychologists call conation, Nunn proposed to give a single name - "hormé".⁽⁹⁰⁾ Following this proposal, all the purposive processes of the organism are hormic processes, "conative processes being the sub-class whose members have the special mark of being conscious".⁽⁹¹⁾ In a footnote,⁽⁹²⁾ Nunn pointed out that this Greek term "hormé" was suggested, but not adopted, by C.G. Jung,⁽⁹³⁾ who used it to mean "an energetic expression for psychological values". Nunn used it in an extended manner to ^{involve} inveigle the conceptions of "purposive energy as manifested both in conscious and in unconscious behaviour".⁽⁹⁴⁾ The term "hormé" was used by Nunn to embrace all conscious life of men and the higher animals, as well as the unconscious behaviour of lower animals and the unconscious activities of the bodies of men and

(89) Education : Its Data and First Principles, op.cit, p.21

(90) ibid, p.23

(91) ibid, p.23

(92) ibid, p.23

(93) G.C.Jung, Analytic Psychology, (1916) English Trans, op.cit, p.348

(94) ibid, p.23

higher animals. Nunn spoke of memory as "conscious mneme"* just as he spoke of conation, as "conscious hormé". (95) Two points in particular stressed by Nunn were : (1) that as hormic processes become organised into systems, the activities that spring from them become more "complex" and more "expressive" still; (2) investigations carried out by the method of psycho-analysis have shown that a large part is played in the human being's conscious behaviour by hormic factors of which the individual may be at the time utterly unconscious. Moreover, such investigations have also shown that "the adult mind is ... but the visible surface of a living structure whose deeper layers are hormic elements dating from infancy even beyond". (96)

As so far stated, Nunn's position may be summarised; as a realist he ascribed to the "sensa" a physical character instead of a psychic one. This is in accord with his new realism, and may be regarded as a correction as well. To him if things are analysed, nothing can be discovered but sensory data.

* The term "mneme" Nunn adopted from the German biologist, Richard Semon, who wrote two books on the same title: The Mneme (1904), English trans., London, George Allen (1921), and Mnemonic Psychology (1909), English trans., London, George Allen (1923).

(95) op.cit., p.23, see also Chapter IV, "The Living Past".

(96) Education : Its Data and First Principles, op.cit., pp.36-37.

The sense-data are the primary factors of reality; it is futile to look behind them. The scientific objects he regarded as of quite secondary character. The aim of forming scientific concepts is to make the objective world of sense-perception intelligible by methodical aids. Nature, he thinks, must be mastered by the human mind. As an educationalist, Nunn fervently advocated individuality as an ultimate end of education. Society he defended as the best environment wherein individuality can grow and develop. Nunn's educational arguments are almost always based upon hormic psychological foundations. Nevertheless, an issue may now be raised as to where Nunn's hormicism really comes.

An answer to the above query can be found, indeed clearly shown, in Nunn's arguments especially, (1) in his emphasis of the doctrine of élan vital, as indicated above. x
(2) The stress he laid upon conative processes, both conscious and unconscious; these conational activities are manifested by man and the other animals alike, and the activities are goal-seeking actions. (3) Nunn's merit, as a true hormist, lies in his suggestion of the concept of horme, which he defended as a less controversial term; it is a wide, denotable word and indicates a position on the debatable relation between organic and inorganic matter, the consciously purposive and mechanistic activity. He

maintained that whatever explanation that might be given of the broad facts of life must apply, in principle, equally to body and mind.⁽⁹⁷⁾ Hence the question, "Are we, since our bodies are 'matter', to seek in physical laws an explanation for the whole of life; or are we, since our bodies are alive, to interpret their activities by what we know of life where its character appears in the highest and clearest form - namely, in the conscious life of the mind ?"⁽⁹⁸⁾. The answer is supplied in a lengthy way. The chief paragraphs of which may be cited so that a better understanding of Nunn's own heroic contribution could be gained.

"The urgency of the question lies in the fact that men of science", wrote Nunn, "and particularly physiologists, generally seek to interpret the life of the body entirely in terms of facts and notions derived from physics and chemistry".⁽⁹⁹⁾ Nunn expressed no wonder at such a view which he regarded as essentially that of Descartes, namely, that man might be regarded as only a very "cunningly fashioned automation if we did not know from inner experience that he has a soul".⁽¹⁰⁰⁾ "The animal's

(97) Education : Its Data and First Principles, op.cit, p.13

(98) ibid, pp.13-14.

(99) ibid, p. 14

(100) ibid, p. 14

life is, of course, permeated (as human psychology is) by chemical and physical factors; but just as a poem, though permeated by grammar, is more than a sum of grammatical expressions, so the behaviour, even of a protozoan, escapes beyond the conception of a physico-chemical machine. In short, the humblest creature is autonomous".⁽¹⁰¹⁾ "Stupendous as the distance is between the lives of the protozoan and the creature who has been made a little lower than the angels, it consists ... not in any radical unlikeness of the essential features, but rather in the differing richness, variety, and subtēlty of the details in which a single scheme has been worked out at different evolutionary levels".⁽¹⁰²⁾

From the above passages, it becomes clear that Nunn viewed the history⁽¹⁰³⁾ of life as a continuous striving towards individuality. This individuality is richly expressed in "man's conscious nature". So that, born with the will to live and to seek goals, man is always activated by deeply ingrained urges to attain the highest self-expression. Indeed, herein lies

(101) ibid, pp.17-18.

(102) ibid, p.18

(103) ibid, p.20, see also : Hamley, H.R., "Sir Percy Nunn"
B.J.Ed.Psych. Vol, XV, part 1, (1945), pp.1-4.

Nunn's hormicism in its widest connotations, much of which came to be used by McDougall in (1930),⁽¹⁰⁴⁾ who actually in (1931)⁽¹⁰⁵⁾ expressed regret that he had not used the expression "Hormic Psychology" at the first publication of Introduction to Social Psychology (1908).

In a preface to his Analytic Psychology (1896), George Frederick Stout (1860-1944) states that "the subject may be approached from the point of view of Physiology, of Mental Pathology, of Ethnology, and of Psycho-physical Experiment".⁽¹⁰⁶⁾ By so stating, Stout wanted to show that the disciplines enumerated, all contribute to the study of psychology. Yet he has not mentioned philosophy which forms the groundwork of his arguments. But to classify his works under the headings of psychology and philosophy would be rather artificial if not arbitrary. All his psychological writings are permeated with philosophical reflexions, and certain parts of his philosophy are based upon psychological considerations. Philosophically speaking, he was sympathetically inclined towards "Idealism". The

(104) Psychologies of 1930, Clark Univ. Press, Mass; ed. by Carl Murchison.

(105) Preface to the 22nd ed. of An Introduction to Social Psychology, op.cit, pp. XIX-XX.

(106) Vol I, p. IX.

philosophers to whom he acknowledged his indebtedness and by whom he had been most influenced, were Plato, Hobbes, Locke, Berkeley, Hume, Bradley, Bain, Spinoza, and Kant. Stout also admired James Ward under whom he worked as an undergraduate at Cambridge. (107)

In the first volume of The Analytic Psychology, Stout considered in some detail the concept of mental activity. "The stream of consciousness", he observed, "though its course is perpetually controlled and restricted by extraneous conditions, has nevertheless a current of its own. The incessant change which is essential to the very existence of conscious life always possesses some degree of momentum. It is always in some degree self-sustaining. This is an indispensable part of the connotation of all such words as activity, endeavour, conation, striving, effort, will, attention". (108) As Stout conceived it, these terms are the warp and woof of the end towards which they are directed. Without any such end, the terms in themselves have no meaning nor can they have any existence.

(107) (1) Preface to Analytic Psychology, op.cit., pp. IX and XI.

(11) Broad, C.D., "Obituary Notice" in MIND, N.S. Vol LIV, No.215, (1945), p.286.

(111) Passmore, John, A Hundred Years of Philosophy, op.cit., p.197.

(108) Stout, G.F., Analytic Psychology, 2 vols., Vol.I, op.cit., p. 147.

Stout's persistence to defending "The Nature of Mental Activity"¹⁰⁹ remained unwavering throughout his arguments. He contends that the conative process is always there, provided there is an aim in view, and we are "active in making an attempt, whether the attempt is successful or not".¹¹⁰ In this he was opposed to both S. Alexander's and Carveth Read's versions.¹¹¹ Yet Stout was not satisfied to leave the matter vaguely worded. "A conative process which is unsuccessful is inefficient in producing that particular result which we call its fulfilment. But it is not absolutely inefficient; it counts in some way as a factor determining the course of events".¹¹² It is called a conative process on its own merit, and it is given the name "mental activity" merely because it is a process at all. He tended to show that it is the intensity of conation which belongs to "immediate experience". It may be inferred, consequently, that it is this immediate experience which colours

(109) A Symposium in Proceedings of the Aristotelian Society, Vol. VIII, 1907-8.

(110) ibid, p.248

(111) Both were contributors to the same symposium.

(112) "The Nature of Conation and Mental Activity" B.J.Psych. Vol. II, part 1, (1906), pp.2-3.

the character of "the conative complex" and gives it its distinctive nature.⁽¹¹³⁾ Then Stout proceeds to show where the difference lies between his view and that of Bradley in respect of conation. Bradley equated an "idea" with "the self". Such a notion Stout judged as "highly ambiguous". Instead, he suggested that the "felt tendency" could be regarded as an immediate unanalysable experience. Still further, he spoke of the self in the limited sense and called it the "organised self".⁽¹¹⁴⁾ As a corollary of this that other "mental contents are relatively alien to the organised self",⁽¹¹⁵⁾ S. Alexander, who borrowed from Stout the foundations of his own conative theory of knowledge, conceded that Stout's treatment of perception was "one of the greatest contributions that have been made to Psychology".⁽¹¹⁶⁾ Although this brief statement is relegated to a footnote, it nevertheless gives Alexander's evaluation precisely. For though some of Stout's terms which he neologised or borrowed,

(113) B.J.Psychol., Vol. II, Part 1, 1906, op.cit, p.6

(114) ibid, pp.7-8

(115) (1) ibid, pp.7-8;

(11) see also by Stout "Is Mind Synonymous with Consciousness?"
A Symposium: Arist.Soc., Vol.I, No.1, 1888, p.12.

(116) Space, Time and Deity, op.cit, footnote, p.119.

such as "noetic synthesis", "relative suggestion", "apperception"⁽¹¹⁷⁾ may be considered as old-fashioned, they can be confidentially regarded as of permanent relevance to psychological terminology. They are all cognitive formulations which loom large in what may be called "act" psychology. The concepts just alluded to anticipated the work of

the Gestalt school. Thus in 1896 Stout was writing that "the percept of the whole is not the sum of the percepts of the parts", that what we perceive is "the whole object" before we resolve it into its parts, that "the apprehension of the whole determines the order and connection of the apprehension of the parts". It is now over half a century since he first attacked "the fundamental fallacy of the associationists" for their "psychological atomism", their "exclusive emphasis on mere combination ... their failure to recognise the apprehension of the form", and their disposition to regard "mental elements as entering into new combinations without themselves undergoing transformation in the process".⁽¹¹⁸⁾

(117) Analytic Psychology, op.cit, Vol.II, Chapters :
V, VI, and VIII.

(118) Analytic Psychology, Vol.II, op.cit, pp.47-48, 249-235,
26, 11.

The work Analytic Psychology has in fact three divisions, and not two as Josiah Royce⁽¹¹⁹⁾ has indicated. The three parts are : (1) a general analysis of consciousness whereby Stout intended to "ascertain the number and nature and mutual connection of those ultimate contents of consciousness". This department of psychology, anyway, is purely analytical and largely introspective. It aims to discover the irreducible constituents of consciousness. Generally, the point of view proper to it is statistical, not dynamic.

(11) In the second division Stout meant "to investigate the general laws and conditions according to which change takes place in consciousness". The method proper to this stage is both "analytic" and "synthetic". (111) The purport of the final part is an exposition in "generic" order.⁽¹²⁰⁾ However, Stout's view seems to be that consciousness is subject to the general principle that its facts normally mean something; in

(119) A Critical Notice in Mind, N.S., Vol. VI, No.23
(1897), pp. 379-399.

(120) Analytic Psychology, op.cit., pp. 35-37.

other words, it tends towards what Royce termed the "evolution of meanings". (121)

One of the other important features of Stout's psychology is its emphasis on development. Strictly this is the theme of the Manual of Psychology (1898)*. In particular Stout held in this book that we mainly have to learn by a gradual

(121) (1) Mind, N.S. Vol. VI, op.cit., p.394.

(11) See also: Rex Knight, "George Frederic Stout" Obituary Notice in B.J.Ed.Psych, Vol.XVI, Part 2, 1946.

(111) Stout, G.F. "Is the Distinction of Feeling, Cognition, and Conation Valid as the Ultimate Distinction of the Mental Functions ?" A Symposium, Aristot.Soc. Vol.I, No.3, 1890.

(1V) _____, "A General Analysis of Presentations as A Preparatory to the Theory of their Interaction" Aristot.Soc. Vol.II, No.1, 1892.

(v) _____, "The Scope and Method of Psychology" Aristot.Soc. Vol I, 1888.

(v1) _____, "In What Sense, if any, is it true that Psychical States are extended ?" A symposium, Aristot.Soc. Vol III, No.2, 1896.

* 4th ed. London, University Tutorial Press, (1932).

process to discern the shape, situation and distance of objects. He maintained that the perceptual processes generally were the result of a complex process of development in which experiences of movement played an essential role. "Our power of freely controlling, detaining, modifying and repeating mental images depends in a large measure on our power of controlling their motor constituents or accompaniments".⁽¹²²⁾ Here, once again,⁽¹²³⁾ Stout pointed out the significance of mental activity. The emphasis this time is laid mainly on perception. In the Introduction, chapter I, Stout objected to the saying that "Psychology is not the science of mind, but only of mental processes or states". He held that "the only possible point of departure lies in the definition of a mind as a conscious individual", and no one "can deal with mental processes or states without reference to their being the processes or states of some conscious individual, some "I" or "self".⁽¹²⁴⁾.

(122) Manual, p.483.

(123) See, for example, McDougall's preface to his: Introduction To Social Psychology.

(124) See, for example :

(1) T. Loveday, A Critical Notice in MIND, N.S, Vol.XXIII, No.92, (1914), pp.570-587.

(11) E.G. Boring, A History of Exp.Psychol, op.cit, p.464.

(111) C.D. Broad, "Professor G.F. Stout" Obituary Notice, in MIND, N.S., Vol LIV, No.215, 1945, pp.285-288.

In the Groundwork of Psychology (1903)*, Stout draws the attention to a twofold division of conscious processes instead of a threefold one as in Analytic Psychology. This new adoption of division is perhaps the most important change in Stout's attitude with regard to Psychology. He divided the "modes of being conscious of an object" into "Cognition" and "Interest"; and of these two, again into "Simple Apprehension and Judgement" on the one hand, and "Conation and Feeling-Attitude"⁽¹²⁵⁾ on the other. The author here was not interested in chasing ideas and feelings about in his own mind; he was rather engaged in exhibiting the broad outline and structure and life of the mental island. Here, as elsewhere, Stout showed an orthodoxy and consistency in pointing out that what should be investigated is "the unity and continuity of the individual consciousness in its various forms, phases, and stages of development".⁽¹²⁶⁾

* 2nd ed., London, University Tutorial Press, (1927).

(125) The Groundwork of Psychology, p.17.

(126) The Groundwork of Psychology, p.53.

op.cit, p.6. See also a critical notice of the book by H. Bosanquet in MIND, N.S., Vol.XIII, No.51, 1904, pp. 422-424.

Stout wrote many important articles on psychological and philosophical topics. Most, and perhaps the best, of the articles he wrote between 1888 and 1927. They were published in 1930 under the title Studies in Philosophy and Psychology.⁽¹²⁷⁾ Four of the essays are predominantly psychological, viz., "The Herbartian Psychology" (1888), "Voluntary Action" (1896), "Perception of Change and Duration" (1899), and "The Nature of Conation" (1906).

In volition, Stout agreed that there is an element which does not exist in desire. In holding this view, he is opposed to Shand's argument. The latter held that the difference between volition and desire cannot be analysed in the last resort. In Stout's view, the element present in volition consists in a certain kind of "judgement or belief".⁽¹²⁸⁾ Stout also strongly opposed Shand's phrase of volitional "identification with self". This is deemed as "vague" as it has no specific limits and no identified denotation.⁽¹²⁹⁾

(127) Published by MacMillan and Co, London.

(128) Studies in Philosophy and Psychology, p.53.

(129) ibid, pp.56-57, 166-181, see also : a critical notice by C.D. Broad in MIND, N.S., Vol. XL, No.158, 1931.

In MIND AND MATTER (1931)⁽¹³⁰⁾ Stout's purport was to show that philosophy has two parts, namely, (1) an analysis of ordinary experience in order to find a coherent account of the principles involved in it, and (2) an enquiry as to whether the universe is a self-complete unity, or an endless series, or an aggregate. Originally, Stout accepted the traditional post-Cartesian view that a representation is a "modification of consciousness". The difficulties lurking behind such an assumption, Stout thought he could overcome by adopting from Leibniz, Lotz^f and James Ward, the doctrine that there is no hard line between mind and matter, since what is called "material objects" are minds in disguise. But he came to reject this idea and held that representations (rechristened 'sensa') are material, although not physical. By this he meant that although they are not mental, they are equally not "physical objects" in the sense in which such objects form the subject-matter of physics. Only on this view, according to Stout, can we understand the way in which our 'sensa' point to the existence of physical objects without being physical objects themselves. To make "practical

(130) Being the first of two volumes based on the Gifford Lectures delivered in the University of Edinburgh in 1919 and 1921.

adjustments" to our experience, we have to regard "sensa" as pointing to "things". That means we cannot manage our lives with sensa alone.⁽¹³¹⁾ In connection with these philosophical views, the question remains whether or not the "sensum" is "by nature" fragmentary and incomplete. This position is most fully worked out in God and Nature (posthumous 1952).⁽¹³²⁾

Stout held that psychology deals with psychical processes that are in themselves subjective and that have mental objects like sensations. Mind is conative, but it is cognitive, too. Cognition and conation are not merely added to one another but mingle in the same process. The psychical process he divided into cognition and interest, the latter is subdivided into conation and feeling-attitude. Conation is described by him as the equivalent of craving, desire, or will. Stout's views, particularly his doctrine of conation, is of special interest because they are founded on hormic bases and they

(131) (1) Mind and Matter, op.cit. pp.15, 167-168, 171-2, 211-212, 230-231, 236-7, 268-9, see also a critical notice by C.D. Broad in Mind, N.S., Vol.XLI, No.163, 1932, pp.351-370.

(132) ed. by A.K. Stout, being the second volume based on The Gifford Lectures delivered in the University of Edinburgh, in 1919 and 1921.

form the flanks of the hormic theory. They might as well be considered as the doorway to McDougall's systematic position.

Stout's philosophy might well be summarised in Passmore's⁽¹³³⁾ own words. "Everything in it leads to the conception of a total Universe containing whatever is finite, which yet, just because it is finite, demands a ground. The presentation looks towards the object of which it is a fragmentary revelation, the object looks towards the Universe which completes it; every experience is a phase in the history of a self, but a self finds its unity only through the conception of a single object of thought".⁽¹³⁴⁾ The description fits Stout's definite and systematic philosophy. This brief survey of some of Stout's main psychological and philosophical views perhaps provides some evidence to support Passmore's⁽¹³⁵⁾ verdict that "far from being antiquated Stout is much more revolutionary than exponents of such modern doctrines as the conditioned reflex".

(133) Passmore, J.A., Memoire, in Stout's God and Nature, op.cit, pp. XXVff.

(134) ibid, p.XLIX

(135) ibid, p.XLIX

If nobody thinks of Stout as the founder of a school, it is "because he was very much more than that", as C.A. Mace has observed.⁽¹³⁶⁾ The advance that psychology has made is in no small measure due to Stout himself. That he must be regarded primarily as a philosopher is an unquestionable fact; nevertheless, it is not paradoxical to say that he made a great contribution to Psychology, so that "the central body of psychological doctrine has assumed a form in which it can assimilate so much".⁽¹³⁷⁾ Appreciating Stout's position in modern psychology, Mace has recently⁽¹³⁸⁾ stated that, "His influence was not that of a founder of a school. He was one who influenced the founders of schools ... other psychologists learned most from him in their maturity. It was in this way McDougall ... derived and developed from Stout what Stout had derived and developed from Spinoza".

(136) Obituary Notice, B.J.Psychol, Vol.XXXVI, part 2, (1946), p.54.

(137) ibid, p.54.

(138) "The Permanent Contribution to Psychology of George Frederick Stout" B.J.Psych., Vol.XXIV, part 2, (1954), p.75.

5. Retrospective Conclusions.

Thus far consideration has been given only to three of the most original and stimulating exponents of the hormic doctrine. They can be credited with the capability of elucidating clearly how mental contents co-operate, and how mental processes function. It is true that their arguments extend over the long span of time which lies between them and many other notable authors such as Locke, Hume, Berkeley, Bain, Lewes, Ward, as already indicated. Yet in this respect, in the discussions of Alexander, Nunn and Stout, the contents of mind as well as the relations obtaining between them are well stressed. It could be said, however, that their attitudes seem to have been monadic in character. To the three writers, just mentioned, the mind is the active factor in differentiating between the inner and the outer sides of human nature, between the subject and the object, as such. Perhaps another meritorious aspect of their endeavours lies in the fact that they tended to point out that Psychology holds a unique position in the hierarchy of the sciences.

Their contentions, at any rate, seem to have certain characteristics: (1) the three 'hormic' thinkers appear to have concerned themselves with the task of reconciling

psychological with scientific judgements. Such a case is at least true of Nunn and Stout. (2) Their method of enquiry was to examine as carefully as possible the data of experience in the expectation that they would be capable of educing the principles which could hold the data obtained together. (3) Conational issues were the central theme of their arguments. (4) They were consistent and thorough. (5) Above all, it seems that it was their ideas, more than any others, that inspired McDougall, who re-shaped the hormic principle on fresh ground; so that he emerged as an eminent Psychologist with whose name hormicism is now intimately associated. "Of all hormic Psychologists", to quote Flugel, "McDougall is by far the most thorough and consistent".⁽¹³⁹⁾ It is to his hormic views, therefore, that the next chapters will be devoted.

(139) Studies in Feeling and Desire, op.cit., p.60.

PART II

INSTINCT AS A BASIC CONCEPT

OF THE HORMIC THEORY

CHAPTER V

THE CONCEPT OF INSTINCT : HISTORICAL

PERSPECTIVES

The basic ideas underlying the concept of instinct are older than recorded history. The orientation of the problems of instinct at the present time has a long history behind it. It is also the outcome of a gradual process of development in philosophical and psychological thought; so that "the specificity of the various problems ... has long gradually emerged",⁽¹⁾ as James Drever (Snr.) said.

1. Origins In Philosophy And Theology.

There have been principal periods in the history of the theories of instinct. All attempts made in this respect are meant to trace the historical development of the theories pertaining to the word "instinct" and its concept. The term "Instinctus",⁽²⁾ for example, was the term used by the Romans

(1) A Critical Notice about E.C. Wilm's : The Theories of Instinct, in J. of Philosophical Studies, vol.I, No.2 (1926), p. 259.

(2) Drever, James (Snr.), "The Nature of Emotions". J. Abn. and Social psycho., vol. XXVII, No.3, (1932), p.299.

to translate the Greek "horme". The root idea⁽³⁾ of the Greek word is "drive", "urge", "impulsion". The word "horme" was employed by the Stoics, for instance, in the sense in which instinct was rightly used in modern times from the XVIIth Century onwards.⁽⁴⁾ However, in the historical background of instinct there are main periods which Wilm grouped⁽⁵⁾ into four :

1. The ancient (Greek and Roman) period;
2. Scholasticism;
3. The period of the Enlightenment;
4. The modern or scientific period;

Despite the obvious objections that might be raised in respect of the terminology, there have been, coincident with the historical stages, various tendencies. They are called the "naturalistic", the "monistic" or the "materialistic" and the "animistic", the "dualistic" or the

(3) ibid, p.299

(4) ibid, p.299

(ii) Herzberg, Alexander, The Psychology of Philosophers, London, Kegan Paul, (1929), pp.13, 39ff;

(iii) Durant, Will, The Story of Philosophy, London, Ernest Benn, (1926), pp.108ff.

(5) The Theories of Instinct : A Study in the History of Psychology, London, Humphrey Milford; Oxford Univ.Press, (1925), Preface, p. xii.

"idealistic".⁽⁶⁾ The different problems of instinct begin to take on a modern form after Descartes. Nevertheless, the controversy between, for example, the mechanistic and the animistic conceptions of nature in the first instance, and thereafter of the organism, are carefully traced and clearly discussed. The relation of present day problems of instinct to age-old and fundamental questions is to some extent emphasised.

Among representatives of the naturalistic tendency the following names are mentioned: Heraclitus, the Greek atomists, Leucippus and Democritus, The Epicureans, Plutarch, Porphyry, Montaigne, Gassendi, Condillac, Leroy, Rorarius, Thomasius, Jenkin, Leibnitz, La Metrie, Vogt, Buchner, / and many others of the XIXth and the XXth Centuries, notably, Bethe, and Loeb.⁽⁷⁾

(6) (1) ibid, p. XIII;

(11) Aristotle's Psychology : A Treatise on the Principle of Life, Translated by W.A. Hammond, London, Sonnenheim (1902), Books I and II.

(111) Erdmann, J.E., A History of Philosophy, 3 vols., vol.I, London, Sonnenheim, (1890).

(7) (i) Hamilton, Sir William, Lecture, 4 vol, Edinburgh, William Blackwood, (18 ?);

(11) Aristotle's Moral Philosophy, London, John Murray, (1879);

(111) Wilm, E.G, op.cit, p.XIII.

Heraclitus, for example, declared during the fourth century B.C., that there had been two types of creation. Men and gods were the products of rational creation, whereas irrational brutes comprised a separate category of living creatures. Only gods and men possess souls as Heraclitus thought.⁽⁸⁾ It cannot be said that he advanced the concept of instinct, but it may be said that he laid the ground work for its development.

The main feature of the atomistic system is, of course, the mechanistic interpretation of nature, the elimination of any purposive category, like intelligence, soul or the like. It substitutes instead, natural law and necessity. The mechanistic interpretations of nature inaugurated by Leucippus and Democritus, as well as beginnings of animal psychology, are continued in Epicurus and Lucretius, and in Plutarch.⁽⁹⁾

In this connection mention of Socrates (469-399) must be made. His position had always been supposed to be that of a moralist, and there is no need to elaborate on this here. Yet

(8) Instinct, an Insight ed., ed. by R.C. Birney and R.C. Teevan (1961), pp.165-166.

(9) (1) Wilm, E.C., op.cit. pp.14-15.

(ii) Herzberg, Alexander, op.cit., chapters I-IV inclusive.

suffice it may be to quote a passage by Aristotle⁽¹⁰⁾ as decisive on Socrates's viewpoint: "The speculations of Socrates were only concerning Ethics, and not at all concerning Nature in general". This seems to be appositely true of Socrates, whose philosophising is not a complete system; it is only "seed and germ of logical analysis".⁽¹¹⁾ His views, however, were best objectivised by Plato, who explored and analysed the notion of the world of ideas.

It was, then, all left to Plato (427-347) who first clearly elaborated the conceptual discussions of the bodily and of the mental causation and intelligence. These terms have come to be incorporated so thoroughly in subsequent philosophy, and are today a part of the working vocabulary of biology and psychology.⁽¹²⁾ The dualism of soul and body in man, however, is complicated by the further division of the soul into two parts or functions, the rational and the irrational. The

(10) Cited by G.H. Lewes : History of Philosophy, 3 vols., vol.I, op.cit, p.163.

(11) Schwegler, A., Handbook of the History of Philosophy, Edinburgh, (1868), pp. 85ff.

(12) (1) Plato, The Dialogues of Plato, Translated by B.Jowett, 2nd ed., Oxford, (1875);

(11) Durant, Will, op.cit, pp.7-59;

(111) Wilm, E.C., op.cit, p.16.

irrational soul, in turn, comprises two parts, the spirited part, manifesting itself in energy and courage, and located in the breast and the nutritive and appetitive or "orectic"⁽¹³⁾ part as it is called in modern terminology; this latter part is located in the abdomen. There has been thus a tripartite division of the soul into the deliberative or rational soul, the emotional or spirited soul or will, and the appetitive, which stretches after desires connected with the organic needs. This threefold division corresponds to the three levels of organic life, plant, animal, and man. Plants possess the nutritive or appetitive soul, animals the spirited or courageous soul, while man has in addition to these two, the faculty of reason.⁽¹⁴⁾

(13) (1) Aveling, Francis, Psychology: The Changing Outlook, London, Watts and Comp. (1937), p.144,

See also:

(11) Psychologies of 1930, ed by C.Murchison, p.359,

(111) Plato, The Republic.

(14) (1) Herzberg, A., op.cit, pp. 140-1;

(11) Wilm, E.C., op.cit, pp.16-17.

(111) Durant, Will, op.cit, Chapter I.

Nowhere in Plato's tripartite division does the term "instinct" appear as a clear-cut concept. It is rather an inferential matter that what is nowadays called instinct was located by Plato within the seats of the emotions and organic cravings. As to the relation between the rational and irrational, or "reason" and "instinct", as it is now called, Plato regarded it as a relation of mutual interaction.

The discussions and analogies enunciated by Plato were carried out in more detail by Aristotle (385-322). Aristotle's natural Philosophy shows a fundamental relation to the system of Plato in its teleological and dualistic concept of nature. All things, Aristotle thought, are a combination of matter and form, and can be arranged in an ascending scale, from the inorganic to the living. The various functions or forms of animation are called souls. The difference between the organic and inorganic was conditional upon the presence or absence of soul. The Platonic partition of the soul into distinct entities or parts, gives place in Aristotle's system to a genetic series of functions in which the lower form is included in the higher. According to this view, the lower can exist without the higher; but the higher always presupposes and operates in connection with the lower. The genetic treatment of mental life is a part

of Aristotle's general view of organic nature; this view alone may entitle him to be included among the most important fore-runners in antiquity of the modern doctrine of organic evolution.⁽¹⁵⁾

From memory, Aristotle distinguished voluntary recollection which is found only in man. From sensation and imagination arise pleasure and pain, desire and aversion, and locomotion. Locomotion being due to appetition; the latter, in turn, is depending upon cognitive processes, like sensations or ideas. Desire, to Aristotle, depends upon a cognitive process, and is impossible without it. This intellectualistic view shows his psychology as a whole as essentially pre-evolutionary; it also indicates that Aristotle's psychology was largely dominated by conceptions taken from introspective treatment of the higher processes in human beings.⁽¹⁶⁾ In the higher reaches of human activity, desire becomes "will" through the participation of the rational soul, which is the prerogative of man.

(15) (1) Aristotle's Psychology, op.cit., Books I, II and III.

(11) Aristotle's Moral Philosophy, op.cit.;

(111) Wilm, E.C., op.cit., pp.22-23.

(16)(1) Aristotle's Psychology, op.cit., books: I, II, III.

(11) Herzberg, A. op.cit., pp.16ff.

In Aristotle's scheme, as in Plato's, there is no explicit mention of instinct. Yet he made the first steps towards a truly genetic conception of mental life. It was Aristotle who first named the gradations that separate the lower from the higher manifestations of intelligence in living organisms.

2. Past Aristotelian Schools: Stoicism and the Epicureans.

The animistic or idealistic tradition begun by such writers as Anaxagoras, Plato and Aristotle, was carried further by the Stoics, the Scholastic Philosophers, both mediaeval and modern, the Vitalists and the recent neo-vitalists like H. Driesch, H. Bergson, and William McDougall. (17)

In their teachings, the Stoics expressly demanded active work in the sphere allotted to every individual. Man is considered as an image of the universe - a "microcosm". The microcosm has to obey immutable laws and is

(17) (1) Wilm, E.C., op.cit., p. XIII. See also :

(11) Durant, Will. op.cit.

governed by reason. In discussing the "horme" which they used in the sense of instinct, the Stoics employed alternately the idioms of metaphysics and of theology.⁽¹⁸⁾ The significant thing about their position is that they were followed throughout the Middle Ages and right into modern times.

On the Stoics' theory, men and gods only were characterised as rational and therefore they belong to one particular community. All animals were categorised as irrational and accordingly they form a different category; even the most complex behaviour of the brutes was thought to take place without any reason or reflection.⁽¹⁹⁾ The natural promptings, now called instincts, the Stoics regarded as purposive activities implanted in the animal by nature or by

(18) (i) Herzberg, A., op.cit, pp. 39ff.

(ii) Erdmann, J.E., op.cit, vol.I.

(iii) Wilm, E.C., op.cit, p. 40.

(iv) Durant, Will, op.cit, pp. 108ff.

(19) Instinct, Insight ed, op.cit.,
p. 166.

"the world reason or creator"⁽²⁰⁾ for the guidance of the creature to attain an end, and to preserve its own species.

Two interesting points must be discussed here :

(1) The purposiveness which is definitely implied in the Stoics' doctrine, has been empirically validated in modern discussions. McDougall, for instance, based his teleological and hormic doctrine on the foundation of purposivity both in man and in the brutes. He endeavoured, of course, to elaborate his doctrine so as to cover a wider range with an up-to-date terminology; this will be discussed later. (2) The ascription of the creation of instinct to "nature" or to a specific "creator" is now totally rejected by the adherents of the doctrine of instinct. Some writers, like H. Fabre, for example, still adhere to this notion; but it is, however, dying hard.

According to Wilm's observations, the Stoics noted the following characteristics of instinct: (1) Its congenital character, its independence of experience; (2) its adaptive function or ability, and (3) its uniformity as opposed

(20) (1) Aristotle's Moral Philosophy, London, John Murray, (1879).

(11) Erdmann, J.E., op.cit, Vol. I.

(111) Drever, James (Snr.), "The Nature of Emotions" J.Ab. and Social Psych., Vol.XXVIII, (1932), pp. 297ff.

to the variable nature of the learned activities.⁽²¹⁾ These and some more characteristics have been indicated in present day investigations into the nature of instinct.

It is significant that the stoical taxonomy was not completely convincing. Their premises and conclusions were not based upon objective evidence. Their hypotheses concerning the psychology of animals were not derived from empirical observations. They were demanded by the assumption of the philosophical position that animals lack a rational soul.⁽²²⁾ The Stoics, however, were not like Aristotle who was in this sphere more of an observer than a philosopher. Yet, Aristotle and Stoicism, mechanism and teleology, as Henderson has aptly said, "are complementary aspects of nature, which are always associated in its manifestations".⁽²³⁾

3. Psychologising Tendencies.

As was indicated above, Aristotle denied reason and moral capacity to animals. In this attitude he was followed by the Stoics. Then came the Epicureans who did much to mitigate the alleged difference between man and the animals in the matter

(21) op.cit, pp. 40-41.

(22) Instinct, op.cit, p.166.

(23) Henderson, L.J., The Order of Nature, Cambridge, Mass, (1925), p.17.

of mental endowment. Nevertheless, they never taught that there was a sort of descent of higher from lower form of animal life; by doing so, they are departing from the Darwinian type of evolutionary conception which already had existed in Aristotle's teaching. There are observations on the analogies existing between the expressive activities of animals and human speech.⁽²⁴⁾ These tendencies were carried forward by Plutarch and Porphyry. Such attitudes were emphasised in the Age of Enlightenment, and greatly developed by Darwin, Romanes, and the early evolutionists.

The mental powers Porphyry finds in animals are (1) sense perception, (2) memory, (3) imitation, as in crows, magpies, the robin redbreast, and the parrot, (4) speech, which is often understood even by man, (5) logical* inference, as in dogs, and (6) an aesthetic sense, as in crabs, fishes, stags, and horses.

No clear-cut reference to instinct has ever appeared in the Epicureans's teachings. Nevertheless, the categories they mentioned of mental powers in animals are still valid topics in modern psychology.

(24) (1) Wilm, op.cit, pp. 43-49;

(11) Herzberg, A., op.cit, pp. 45ff.

* cf. for example Col. E.H. Richardson "Homing Instinct in Dogs" Psyche, N.S., Vol.II, No.1, 1921-22.

4. Scholasticism.

Instinct had a limited place in the scholastic philosophy. It was restricted to animals as irrational⁽²⁵⁾ creatures. Animal behaviour was supposed to be dictated by instinctive control. In other words, only within the frame of the theological system was instinct a topic for discussion.

The scholastic conception of animal activity is to represent a mean position between two attitudes: the psychologising tendency which ascribes rationality to animals and the modern mechanistic tendency which explains animal behaviour on a purely physiological basis. According to the latter view, processes of animal behaviour are unaccompanied by consciousness.⁽²⁶⁾

Generally, mediaeval psychology was little more than "a doctrine of reason". Reason was supposed to be a faculty

(25) (1) Herzberg, op.cit.

(11) Durant, Will, op.cit.

(26) (1) Erdmann, J.E., op.cit., Vol. I ;

(11) Durant, Will, op.cit.

(111) Herzberg, A., op.cit.

cf. Hartmann, Eduard Von, Philosophy of the Unconscious, London, Kegan Paul, Book II, pp. 47-154.

super-added to sensation and perception, and prerogative to man only. Animals being endowed with sense perception and sense impulse, were thought to be devoid of reason. Impulse in man is adaptive. It is not in brutes. This position was gradually elaborated through the writings of St. Augustine (d. 430), Alcuin (d. 804), Rhabanus Maurus (d. 856), John Scotus Eriugena (d. 877), Hugh of St. Victor (d. 1141). The development came to its climax in the arguments of the well-known philosophers of the XIIIth Century, like Alexander of Hales (d.1245), Albert the Great (d.1280), and Thomas Aquinas (d.1274).⁽²⁷⁾

The Renaissance could hardly be described as contributing to instinctual study. The eminent writer who discussed questions relevant to the topic of psychology was Montaigne (1533-1592).⁽²⁸⁾

(27) (1) Wilm, E.C., op.cit. pp. 67, 61-62 ;

(11) Hamilton, Sir William, op.cit.

(111) Cofer, C.N. and Appley, M.H., Motivation : Theory and Research, N.Y., John Wiley and Sons, (1965), Ch.2.

(28) (1) Durant, Will, op.cit.

(11) Hamilton, Sir William.

5. Descartes and Animal Automatism.

It was Thomas Aquinas (d.1274) who wrote :
"In animals there are only instincts, but not in man". (29)
As it stands, this statement tends to emphasise a sort of
dichotomy between man and the other animals. Anyway, Aquinas's
position represents an extension of views already upheld by the
scholastic philosophers. After about four centuries, Aquinas's
notion was reviewed by Rene Descartes (1596-1650) who
intended to restate an alleged existence of man-brute division.
The central idea in Descartes was the primacy of consciousness.
His apparently obvious proposition was that the mind knows
itself more directly than it can ever know anything else; it
knows the external world only through the impression the world
makes upon the mind in sensation and perception. His viewpoint was
that the study of man must in consequence begin with the
individual's mind and self. His whole argument is summarised

(29) (1) Instinct, Insight ed., op.cit, pp. 167-168 ;

(11) Wilm, E.C., op.cit, p. 78

in "(Cogito, ergo sum), I think, therefore I am".⁽³⁰⁾ Such a way of reasoning seems to have led Descartes to state that, "there is nothing that leads weak minds further astray from the paths of virtue than the idea that the minds of other animals resemble our own, and that therefore we have no greater right to future life than have gnats and ants".⁽³¹⁾

Descartes's position was opposed by Gassendi (1592-1655) and Hobbes (1588-1679) who sought to develop a purely materialistic conception of nature. In the XVIIIth century his views were also objected to by men like Condillac (1715-1780) who, following Plutarch and Montaigne, tended to minimize the alleged differences between man and the animals. Condillac, for example, ascribed to the intelligence of animals sundry activities which were regarded by Descartes and his supporters as having a purely reflex and instinctive quality.⁽³²⁾

(30) (1) Descartes's Philosophical Works, English ed in 2 vols., by Elizabeth S. Haldane, Cambridge, (1942).

(11) Durant, Will, op.cit. p.166.

(31) (1) Descartes's Philosophical Works, English ed by Elizabeth Anscomb and P.Y.Geach, London, Thomas Nelson & Sons (1964); 1st published (1954).

(11) Hamilton, Sir William, op.cit.

(111) Brett's History of Psychology, abridged and ed by R.S.Peters, London, George Allen, (1953), pp.344ff.

(32) (1) Erdmann, J.E. op.cit. Vol.I.

(11) Wilm, E.C., op.cit. pp.78-88 ;

(111) Durant, Will, op.cit.

(1v) Cofer, C.N. and Appley, M.H. op.cit. Ch.2.

6. Empiricist and Nativist Controversies of the XVIIIth Century.

Condillac's views above clearly reflect an idealistic and popular teleological philosophy usually referred to as the "Enlightenment".⁽³³⁾ He described, for example, how the animal tends to repeat its previous movements. This is a somewhat general statement which has its affinity in what is today called trial and error learning. On Condillac's view, the initial equipment of reflex and instinctive apparatus is reduced to a minimum of organic needs.⁽³⁴⁾ Some of his views were opposed by Hermann Samuel Reimarus (1694-1768) of Jena University. In his observations, Reimarus tended to show that there is a gradual advance from the lowest animals to man. In sense perception and intelligence the highest animals are not far removed from man.⁽³⁵⁾ In other words, he tried to belittle the

(33) Durant, Will, op.cit., pp. 218--275

(34) Reeves, Joan Wynn, Body and Mind in Western Thought, Pelican ed., (1958), pp.140-1, 352-62.

(35) (i) Erdmann, J.E., op.cit., vol. II.

(ii) Wilm, E.C., op.cit.,

(iii) Sir William Hamilton's Lectures 4 vols, op.cit.

sharp distinction imposed by some philosophers between man and the animals. Although Reimarus did deny reason to animals, yet these characteristics can be traced in his contentions throughout: (1) sense perception and intelligence are ascribed to animals; (2) inborn natural impulses are possessed by the animals; (3) animals can benefit from experience or practice.

All the tendencies are divided into three classes in Reimarus's system: (1) automatic tendencies; (2) activities of consciousness; (3) overt bodily activities or conations aimed at the appropriation of the pleasant and avoidance of the unpleasant. Instincts are variations of the fundamental impulse of self-preservation; this includes the care of offspring, an extension of the self-regarding impulse. He enumerated forty-seven different instincts including the following. "(1) To move the body as a whole, or special organs of the body; (2) to find its proper environment; (3) to seek for and to discriminate between different substances suitable for food; (4) to avoid dangerous objects and deep places; (5) to recognise and avoid its natural enemies; (6) to recognise its mates; (7) in the care and nutrition of the young, to lay, protect, and hatch eggs; (8) on the part of the young to suckle the mother; (9) to associate with their kind; (10) to modify or redirect the

impulses under extraordinary circumstances".⁽³⁶⁾

However, the terms "impulse" and "instinct" seem to have been used by Reimarus synonymously. Their current usage may be taken as indicative of a better understanding of what they meant at the time. This could be considered as a further step towards the development of psychology. The two words in question were afterwards treated by the most professedly scientific writers, like Darwin, Romanes, McDougall and others, in almost the same way as they had been employed in the XVIIIth Century. One big difference, however, must be accounted for here; that the authors just mentioned being highly advanced thinkers and better equipped with knowledge, were able to carry the arguments to even higher levels, so that they could leave their marks on various psychological topics.

7. Philosophical Discussions of Instinct in the XIXth Century.

In the XIXth Century, advanced theories were formulated concerning instinct. Early in the XVIIIth Century Leibniz (1646-1716) put forward his theory of monads. It is

(36) Cited by Wilm, op.cit, pp.116-117; see also, pp.97-109.

significant that the theory was adopted in this century (1930)⁽³⁷⁾ by McDougall who used it as a basis for some of his hormic discussions. McDougall held that the hormic activity can be exhibited only by organisms or natural entities which he called "monads". Long before McDougall, however, in the 17th and 18th Centuries, British Ethicists and Moralists such as A. Shaftesbury⁽³⁸⁾ (1671-1713), F. Hutcheson⁽³⁹⁾ (1692-1752) and Adam Smith⁽⁴⁰⁾ (already mentioned), recognised the existence of instinct in human behaviour and realised its role in social Philosophy. Words like "conscience", "sympathy", "benevolence" and "passions" were gradually replaced by the term "instinct".

(37) Psychologies of 1930, ed. by Carl Murchison, Worcester, Mass; Clark University Press, See also: Cofer, C.N. and Appley, M.H., op.cit., Chapter 2.

(38) Inquiry Concerning Virtue or Merit, in British Moralists, ed. by L.A. Selby-Bigge, Vol.I, Oxford, (1897).

(39) (i) An Inquiry Concerning the original of our Ideas of virtues or Moral Conduct, in: British Moralists, op.cit.,

(ii) An Essay on the Nature and Conduct of the Passions and Affections, British Moralists, op.cit.

(iii) A System of Moral Philosophy, British Moralists, op.cit.

(40) The Theory of Moral Sentiments, British Moralists, op.cit.

Leibniz's theory, however,⁽⁴¹⁾ implied certain suggestions which could be described as "teleological". Notable among his arguments are these: (1) the continuity of nature from the inorganic realms to man; (2) an explanation of spontaneous change that takes place within the organism; (3) he maintained that definition of reality could be better explained in terms of "activity". Supposedly, by activity Leibniz meant the functions which the organism fulfills in certain situations, functions which are now called self-regulating activities and which loom large in instinctual discussions.

Anyway, it is said that it was Arthur Schopenhauer (1788-1860), who raised instinct to the dignity of "a cosmic principle".⁽⁴²⁾ He devoted an entire chapter to an analysis of instinct and mechanical tendency.⁽⁴³⁾

(41) (1) Thilly, Frank, A History of Philosophy, New York, Henry Holt and Co., (1914), reprinted (1931). pp. 364ff.

(11) Wilm, op.cit, p. 125 ;

(111) Herzberg, A. op.cit, pp. 45, 50, 61ff.

(1v) Durant, Will. op.cit, pp. 296, 385.

(42) Wilm, op.cit, p. 126.

(43) Schopenhauer, Arthur, The World as Will and Idea, English translation, 3 vols., (1884), London, (1948), Vol. III, Chapter XXVII.

Connected with the understanding of instinct is the question of purposive direction aimed at a goal. It is often thought that purposivity exists only where there is consciousness. A discussion of the pros and cons of this matter will be coming before long. It may suffice to say now that instinct is in the main regarded as purposive activity without consciousness. The animal does not know its ends as ends; and this activity which unconsciously realises ends is what Aristotle called "teleology",⁽⁴⁴⁾ which is the eternal conformity of things to their idea or nature. Perhaps, Hartmann (1842-1906) had this in mind when he defined instinct as "purposive action without consciousness of the purpose".⁽⁴⁵⁾ After a somewhat detailed discussion of instinct, Hartmann reached the following conclusion: "Instinct is not the result of conscious reflection - not a consequence of bodily organisation - not mere result of a mechanism founded in the organisation of the brain - not the effect of a dead, and essentially foreign mechanism, externally adhering to the mind - but the individual's own activity, ✓

(44) (1) Aristotle's Psychology, op.cit.

(11) Wilm, E.C., op.cit., p.122.

(45) Hartmann, E. Von, Philosophy of the Unconscious, London, Kegan Paul, English trans. (1931), first publ. 1869, book I, Ch.III, p.79.

springing from his inmost nature and character. The end, to which a definite kind of instinctive action is subservient, is not conceived once for all by a mind standing outside the individual like a providence, and the necessity to act conformably thereto externally thrust upon the individual as something foreign to him; but the end of the instinct is in each single case unconsciously willed and imagined by the individual, and the choice of means suitable to each special case unconsciously made. Frequently the knowledge of the purpose of the unconscious cognition is not at all ascertainable by sense - perception". (46)

The conception worked out here renders it possible to comprehend instinct as the inmost core of every being. Unobjective though the basis of the argument is, it shows nevertheless the concept of instinct as well - formulated after it had been somewhat hazily conceived. The reason why Hartmann has been mentioned before Darwin or Spencer, for instance, is simply because the former's treatment of the subject falls more within the region of philosophy than in the field of what may be called evolutionary science, which is closely linked with the name of Darwin.

(46) ibid, book I, p. 113.

In summary, it appears that discussions about the concept of instinct can be traced back in early philosophical speculations. It was argued that man's conduct was ascribed to reason alone, whereas the behaviour of animals was thought to be purely instinctive. Support for such a dichotomous classification came from the theological teachings during the Mediaeval Era. The instinctual concepts were brought about primarily by metaphysical conceptions of nature, rather than by first-hand observations.

8. Early Evolutionary And Scientific Usage.

Before the scientific interpretation of instinct was adopted, the general tendency was to explain all behaviour as a product of experience alone. Later on such a notion seems to have been repudiated, largely because of Darwin's novel explanation of biological evolution and the explicit emphasis he laid upon the instinctual factor. From then onwards the attitude appears to have changed tremendously, and the argument, generally, has been that it cannot be assumed at all that learning or experience plays any part in the creation or execution of instinct which is intelligent, highly adaptive and useful to the creature. The dogma of immutable instincts in the animal species was renounced by biologists sometime ago. Douglas A. Spalding,

for instance, could prove suppressions and transformations of instincts in chickens (1872, 1873, 1875).⁽⁴⁷⁾ It is reasonable therefore to think of instinct as both natural and inherited. Credit, doubtless, goes to Jean Baptiste Lamarck, Charles Darwin⁽⁴⁸⁾ and, more recently, to William McDougall. McDougall's efforts which are described as "exceedingly valuable"⁽⁴⁹⁾ will be elaborated later. It may suffice to say here that he endeavoured to distinguish and describe the elemental unitary instincts which are together supposed to form the entire basis of the human mind.⁽⁵⁰⁾

(47) (1) see chapter I above.

(11) Instinct, op.cit, p.168

(48) (1) "On Instinct" Paper read before Brit.Assoc., August 19th, 1872, published in Nature, vol VI, (1872).

(11) "Flight of Birds not Acquired" Nature, vol VIII (1873);

(111) "Instinct with original observations on Young Animals" in: MacMillan's Magazine, (1873) Vol 27, 282-293, reprinted in B.J. of Animal Behaviour, (1954), vol 2, 2-11.

(1v) "Instinct and Acquisition" Nature, vol. XII (1875). See also:

Charles Baudouin, "The Evolution of Instinct from the Standpoint of Psycho-Analysis", Psyche, vol 3, 1922.

(49) See chapter II above.

(50) Tansley, A.G., The New Psychology and Its Relation to Life, London, George Allen (1921), p.181.

See also by the same author : Mind and Life, London, George Allen, (1952) pp. 41ff, 53ff.

See also: (1) Tansley, A.G., The New Psychology, op.cit, pp.41ff.

(11) Cofer, C.N. and Appley, M.H., op.cit, Ch.2

The two principal suggestions of the origin of instinct offered by the evolutionary theory are those of inheritance of acquired skills and natural selection. The first theory is mainly associated with Lamarck, the second with Darwin⁽⁵¹⁾. Lamarck's theory of the inheritance of acquired characteristics applies to both structures and functions; the functions precede and give rise to the structures. The theory of the origin of instinct implied in Lamarck's contentions has come to be widely known as "The lapsed intelligence theory", by which it is meant that it is derived from earlier intelligent and adaptive activities. This phrase in itself was apparently invented by G.H. Lewes.⁽⁵²⁾ Lamarck's "unfortunate term"⁽⁵³⁾ and "unlucky venture"⁽⁵⁴⁾ was opposed by S.J. Holmes⁽⁵⁵⁾ and C.O. Whitman.⁽⁵⁶⁾

(51) (1) Durant, Will, op.cit., pp.385,405,498,384,428;

(11) Wilm, E.C., op.cit., pp.144-149.

(52) (1) Durant, Will, op.cit.,

(11) Wilm, E.C., op.cit.

(53 & 54) Wilm, E.C., pp.154, 161.

(55) The Evolution of Animal Intelligence, (1911). New York, Holt.

(56) Animal Behaviour, Biological Lectures for 1898, Woods Hall, published in (1899).

Lamarck's general position was first widely accepted by biologists and students of developmental psychology. Afterwards the drift of opinion was strongly against it. Nevertheless, as prominent among Lamarckians, these names are mentioned:⁽⁵⁷⁾ Spencer, Lewes, Sully, Cunningham and Henslow in Great Britain, Hyatt and Cope in America, Preyer, Haeckel, Schneider, Eimer, Wilser, Herdweg and Wundt in Germany, Ribot and Foveau de Courmelles in France, and Canastrini and Cattaneo in Italy.

Charles Darwin (1809-1882) showed much concern about the concept of instinct which was one of the central issues in his writings. He made instinct one cornerstone of his theory of evolution by means of natural selection. To bridge the gap between man and the brutes, and thus to establish the evolution of mind as well as structure, Darwin amassed two types of evidence. One type purported to prove the existence of human instincts, the other pertained to rational behaviour in sub-human species. He observed that⁽⁵⁸⁾ "it will be universally admitted that instincts

(57) (1) Durant, Will, op.cit.

(11) Wilm, E.C., op.cit.

(58) The Origin of Species, (1859), 6th impression, (1950), London, Watts and Co., p.180.

are as important as corporeal structure for the welfare of each species, under its present conditions of life. Under changed conditions of life, it is at least possible that slight modifications of instinct might be profitable to a species; and if it can be shown that instincts do vary ever so little, then I can see no difficulty in natural selection preserving and continually accumulating variations of instinct to any extent that may be profitable". In Darwin's statement two points are worth emphasising. (1) he indicated the possible modifiability of instinct according to the required conditions; such a view conforms with his evolutionary arguments. (2) the coherence he expressed in the connection between instinct and natural selection as two coincident factors in the life of any being. Yet Darwin conceded that instinct cannot be expected to be perfect as such. He could write "Wonderful and admirable as most instincts are, yet they cannot be considered as absolutely perfect. There is a constant struggle going on throughout nature between the instinct of the one to escape its enemy and of the other to secure its prey". (59)

(59) A posthumous essay on Instinct appended to Mental Evolution in Animals by George John Romanes, London, Kegan Paul, (1883), the full text of a part of Darwin's chapter on Instinct written for The Origin of Species, afterwards suppressed for the sake of condensation, pp. 379-380.

Darwin's description of instinct included some main points that have nowadays been confirmed by writers, like, for example, R.W.G. Hingston.⁽⁶⁰⁾ Among the characteristics of instinct that Darwin pointed out and ^{point out} supported by Hingston are these : its independence of experience, its uniformity within given species, the absence of prevision or conscious purpose. The latter point has often been disputed, especially by McDougall, as it will be shown later.

However, Darwin adopted a dual origin of instinct. He distinguished between what he called "domesticated instincts" and "natural instincts". The former "are certainly far less fixed or invariable" than the latter; but the former "have been acted on by far less rigorous selection, and have been transmitted for an incomparably shorter period under less fixed conditions of life".⁽⁶¹⁾ How strongly these "domestic instincts", "habits" and "dispositions" are inherited, and how curiously they become mingled, is well shown when different breeds of one species are crossed.⁽⁶²⁾ He believed that "natural instincts are lost under domestication". Illustrating this, Darwin referred to those breeds

(60) Problems of Instinct and Intelligence, London, 1928.

(61) The Origin of Species, op.cit., p. 183.

(62) ibid., pp. 183-4.

of fowls which very rarely or never become "broody".⁽⁶³⁾ The effects of habit are of quite subordinate importance to the effects of natural selection of what he called "accidental variations of instinct" ; by this phrase Darwin meant "variations produced by the same unknown causes which produce slight deviations of bodily structure".⁽⁶⁴⁾ Even so, Darwin tended to show that although "there is a striking and close parallelism between habits and instincts, and although habitual actions and states of mind do become hereditary, and may then ... most probably be called instinctive, yet it would be ... the greatest error to look at the great majority of instincts as acquired through habit and become hereditary". His belief was that "most instincts are the accumulated result, through natural selection of slight and profitable modifications of other instincts"; such modifications Darwin looked at as due to "the same causes which produce variations in corporeal structure".⁽⁶⁵⁾

At any rate, Darwin did declare that it is "almost certain that many of the most wonderful instincts have been acquired independently of habit, through the preservation of

(63) ibid, p. 185

(64) ibid, p. 180

(65) From Darwin's MSS, p.264, appended to Romanes's Mental Evolution in Animals.

useful variations of pre-existing instinct".⁽⁶⁶⁾ He thought that other instincts may have arisen suddenly in an individual and then been transmitted to its offspring, independently both of rigorous selection and severe tests of usefulness. Subsequently, they may be strengthened by habit.⁽⁶⁷⁾ He conceded that it would be "the most serious error to suppose that the greater number of instincts have been acquired by habit in one generation, and then transmitted by inheritance to a succeeding generation. It can be clearly shown that the most wonderful instincts with which we are acquainted, namely, those of the hive-bee and of many ants, could not possibly have been acquired by habit".⁽⁶⁸⁾ This statement could be as an implicit rejection of Lamarck's principle of acquired traits, a principle which seems to have been adopted by McDougall, who subsequently conducted experiments to prove its utility. The experiments and their methodology, however, will be discussed in the appropriate place. Unlike Lamarck, Darwin placed the emphasis upon natural selection operating upon congenital variations. The Lamarckian theory was consistent with the view that instincts are "racial habits".

(66) Darwin, C., "Inherited Instincts", Nature, Vol VII, (1873) p.281

(67) (1) ibid, p.281, see also, pp. 417-18.

(11) The Descent of Man, op.cit, pp.149-151.

(68) The Origin of Species, op.cit, p. 201

To Darwin, both instinct and habit are unconscious performances. They are often constant throughout life. Both are composed of smaller, more specific acts. Habits, like instincts, are "associated with other habits, with certain periods of time, and states of the body". Instincts, however, vary in all directions.

In his Descent of Man (1871), Darwin adduced proofs that "there is no fundamental difference in mental characteristics between man and the higher mammals". He started his review of the evidence procured by indicating how most of the instincts to be observed in animals - sex, pugnacity, flight, parental care, sociability - are also traceable in human beings. To verify such a notion he carried out daily observations on his own children, as formerly pointed out. Inheritance, of course, was the central core in Darwin's argument. When any tendency is inherited, it is likely to be inherited by different individuals in different degrees. Inheritance as Cyril Burt⁽⁶⁹⁾ has put it "is a crucial part of the Mendelian Theory that the transmission, the combination and the recombination of genes are largely determined by the laws of chance." This means that there would

(69) "Instinct in Man" Medical World, vol LXXXVII (87), No.4, (1957), p. 308.

be genetic differences quite as often as genetic resemblances.⁽⁷⁰⁾ Since instincts are dependent on neural structures, they are very much liable to individual variation. This view, doubtless, was in Darwin's mind.

Darwin was alive to the fact that instincts, as behavioural impulses, could conflict with each other even within the self-same individual. Indeed, his own oft-used word "struggle" may well be interpreted as to mean conflict. It seems for this reason that Darwin recorded, "a struggle may often be observed between different instincts, or between an instinct and some habitual disposition". Struggle, as used by Darwin, or conflict can be considered as a sort of behaviour; the ensuing behaviour is based upon or motivated by structural units - by instincts. It is by these instincts, then, that we and the other animals are "jerked and pulled",⁽⁷¹⁾ as Burt has remarked.

Evidently, it was Darwin, more than anyone else, who realised the importance of instinct and its essential part in behaviour. It was he and Spencer who substituted innate reflexes for innate ideas which the scholastic writers used for the interpretation of behaviour. Darwin's theory of natural

(70) ibid.

(71) ibid., p. 306.

selection as applied to the origin of instincts has, largely owing to August Weismann's⁽⁷²⁾ (1834-1914) influence, found its way to many writers in Britain and abroad, notably F. Galton, G.J. Romanes, Lloyd Morgan,⁽⁷³⁾ A.L. Baldwin, Wm. James, and others. The impact Darwin left may easily be seen in S.J. Holmes's own observation that "In the evolution of instinct the factor of organic selection would appear to be especially patent".⁽⁷⁴⁾

However, the evolutionary movement and the idea of an instinctive basis for human psychology became rapidly popular. This is due chiefly to McDougall's efforts who formulated the instinctual theory neatly and advanced it considerably. Among recent investigators of instinctive behaviour are K. Lorenz⁽⁷⁵⁾ and N. Tinbergen.⁽⁷⁶⁾ The conclusions

(72) Essays upon Heredity and Kindred Biological Problems 2 vols, English Translation, Oxford, (1891).

(73) See: Charles S. Minot : A Critical Notice about Morgan's : Instinct and Habit, Psych.Rev., vol. IV, No.3, (1897), pp. 312ff., where Morgan is described as a disciple of Darwin, a pupil of Huxley, and a follower of Romanes.

(74) The Evolution of Animal Intelligence, (1911), op.cit., p.137.

(75) (1) King Solomon's Ring, London, Methuen, (1952).

(11) On Aggression, London, Methuen, (1966), 1st published (1963).

(76) (1) The Study of Instinct, London, Oxford University Press, (1951).

(11) Social Behaviour in Animals, London, Methuen, (1953).

reached by these two authors closely resemble those advanced by McDougall. One striking similarity is the doctrine of a "hierarchy of neurophysiological levels and centres", which constituted the basic feature of McDougall's general theory of mental activity. An elaboration of this will come.

Discussing instinct, Herbert Spencer defined it as "compound reflex action".⁽⁷⁷⁾ He thought that no demarcation can be drawn between it and simple reflex action, out of which it arises by successive complications. The two are distinguished as "sensori-motor" and "excito-motor". The distinction seemed to him indefinite.

In Spencer's view, instinct is much further removed from the purely physical life, than is simple reflex action. "While simple reflex action is common to the internal life, instinct, properly so called, is not."⁽⁷⁸⁾ He could not think of instincts "displayed by the kidneys, the lungs, the liver". Instincts in his view are confined actions of "the

(77) The Principles of Psychology, London, Longmans, (1855), part IV, Ch.V, p. 539.

See also: Burt, Cyril, Medical World, vol 87, No.4, (1957), op.cit, p. 308.

(78) ibid, p. 542.

nerv^o-muscular apparatus, which is the special agent of the physical life", (79) in that instincts answer to external phenomena that are more complex. While the simple reflex actions respond to some of the most general relations common to the individual objects, "the compound reflex actions" (i.e. instincts in his view) respond to those more involved relations by which certain orders of objects and actions are discriminated from others. In the phenomena of instinct, a greater differentiation of the psychical from the physical life is seen. In its higher forms, instinct is accompanied by some approach to consciousness, a point which indicates the main difference between Darwin's and Spencer's outlook concerning the consciousness of instinct. The evolution of instincts, as resulting from experience, is quite comprehensible to Spencer. Regarding this point, his notion seems to have been quite in agreement with that of Darwin. The only difference between the two approaches seems to be that Darwin emphasised the hereditary origin, whereas Spencer, without neglecting inheritance, gave the priority to experience. Both of them, however, were of the opinion that instinct in the end imperceptibly passes into an order of psychical action.

(79) (1) Spencer, H.I. "Comparative Psychology" MIND, Vol 1, No.1. (1876)

(11) Principles of Psychology, op.cit., pp. 542,553.

Apparently Spencer's argument is that instinctive actions grow out of reflex. These actions, in turn, pass into intelligent acts, so that in his own terminology, an instinctive act need never have been intelligent, and an intelligent act need never become instinctive. This particular view, which may be described as "Bergsonian", is in sharp contrast with the orthodox exposition of instinct later presented by eminent psychologists, such as Stout, McDougall, and even by less professional writers on instinct such as E.H. Richardson⁽⁸⁰⁾, for example.

Perhaps the main defect of Spencer's theory is that it does not recognise the principle of natural selection, though he himself in an essay on "The Development Hypothesis" (1852), and in his Principles of Psychology (1855), anticipated the Darwinian evolution and supported it afterwards. It could be said, then, that Spencer's instincts are not true instincts but elaborate "neuro-muscular" adjustments. However, it was Spencer's clarity of mind which "suggested the application of the evolutionary idea to every field of study".⁽⁸¹⁾

(80) See: "Homing Instinct in Dogs" *Psyche* NS, vol.II, No.I, (1921).

(81) Durant, Will op.cit, p. 385.

Traces of Darwin's influence can be found in G.J.Romanes's (1848-1894) writings. Like Darwin, Romanes tried to popularise the issue of instinctive duality. He differentiated between primary and secondary instincts. The first mode of origin "consists in natural selection, or survival of the fittest, continuously preserving actions which, although never intelligent, yet happen to have been of benefit to the animals which first chanced to perform them".⁽⁸²⁾ As support for his observation, cited here, Romanes mentioned the instinct of incubation. In his view, it is quite impossible that any animal can ever have kept its eggs warm with "the intelligent purpose of hatching out their contents" ; so it could be supposed that the incubating instinct began by "warm-blooded animals showing that kind of attention to their eggs which we find to be frequently shown by cold-blooded animals".⁽⁸³⁾ On this view, the incubating instinct would be developed with the absence of intelligence and purpose. Scrutinised in the light of modern literature on instinct, such a notion would prove untenable.

(82) Romanes, G.J., Mental Evolution in Animals (1883), also by the same author :

"Animal Intelligence", A lecture delivered March 12, (1879), published in a pamphlet, p. 155.

(83) M.E.A., op.cit, p. 177

The second possible mode of the origin of instinct is as follows: "By the effects of habit in successive generations, or actions which were originally intelligent become, as it were, stereotyped into permanent instincts".⁽⁸⁴⁾ Romanes thought that in the life time of the individual, adaptive actions which were originally intelligent might by frequent repetition become automatic and leave their effects on "the nervous system". In other words, the intelligent actions in one generation became automatic in a succeeding one. This point of view Romanes designated as the "lapsing of intelligence" which he borrowed, with approval, from G.H. Lewes.⁽⁸⁵⁾ This standpoint too, may be regarded as indefensible since it takes as its main basis the idea of lapsed intelligence, the notion that makes instinct as a consequence of intelligence instead of the other way round.

Romanes's argument succinctly stated is as follows: (1) Many instinctive acts are performed by animals which are low in the scale of development, and consequently it is difficult to suppose that their present instinctive adjustments can ever have been intelligent. (2) Among the higher animals,

(84) ibid, pp. 177-178.

(85) ibid, p.257 and pp. 177-178.

instinctive actions are performed at an age before intelligence has begun to assert itself; however, instinctive actions begin even before any power of learning is possible. (3) Considering the great importance of instincts to species, Romanes was prepared to expect that they are subject to the influence of natural selection.⁽⁸⁶⁾

From Romanes's viewpoint, however, there is a great difference between the two kinds of instincts - Primary and Secondary - if regarded psychologically; but no difference, if considered physiologically. Regarded physiologically, both kinds of instincts are merely expressions of the fact that particular "nerve-cells" and "fibres" have been set apart to form their reflexes automatically, i.e. without being accompanied by intelligence.⁽⁸⁷⁾

To Romanes, instinct is both "plastic"⁽⁸⁸⁾ and "generic"⁽⁸⁹⁾. Plastic in being adaptive to changed conditions that may happen in the life of the individual. In the case of

(86) ibid, p. 178

(87) "Animal Intelligence", A lecture delivered before the British Association at Dublin, August 16 (1878), published in: The XIXth Century, vol. IV, No.XX, pp.653-672.

(88) "Animal Intelligence" A lecture (1879), op.cit, p. 159.

(89) Mental Evolution in Man, London, Kegan Paul, (1888), p.7

adaptability instinct conforms to the principle of lapsing intelligence or of natural selection, or to both. In being generic, it comprises all the faculties of mind which are concerned in conscious and adaptive action, antecedent to individual experience, without necessary knowledge of the relation between means employed and ends attained.

Two interesting points may here be alluded to : First, Romanes used the terms "disposition"⁽⁹⁰⁾ and "propensity"⁽⁹¹⁾ in quite a different way from that in which McDougall later used them. Romanes, it seems, used them in a restricted sense; by "disposition" he meant instinct in its limited sense, by "propensity" he intended to mean habit. McDougall, however, employed both of the two terms as synonymous with instinct in its wider connotation. Secondly, Romanes was one of the first to propose names for specific instincts, an effort which may be regarded as a tentative attempt towards a classification of instincts.

The instincts that Romanes enumerated are : self-preservation, reproduction, rearing of progeny,⁽⁹²⁾ the migratory instinct, homing instinct, "a mysterious instinct"

(90) M.E.A., op.cit., p. 186

(91) ibid., p. 200

(92) Mental Evolution in Man, op.cit., pp. 7-8

manifested by several species of wasp-like insects; the incubating instinct, the sucking instinct,⁽⁹³⁾ instincts of play, affection, curiosity.⁽⁹⁴⁾ Romanes appears to have taken it for granted that the instincts of man are identical with those which are observed in the lower animals. He was of the opinion that instincts are found to give rise to the existence of habits, and once the habits are inculcated, instincts themselves fade away. He thought that it is habits, and not instincts, which are inherited. On his theory, the "palaentology" of instincts is something different from that of habits. "Unlike structures" instincts do not "occur in a fossil state", and therefore in the course of their "modification they do not leave behind them any permanent record, or tangible evidence, of their transformation".⁽⁹⁵⁾

Anyway, despite the conflict that Romanes sometimes showed in his arguments, he undoubtedly was an advocate of instinct. Apparently, he was rather confused as to which is more lasting: instinct or habit. Nevertheless, his assiduous efforts, in addition to those of Darwin and Spencer, enabled

(93) "Animal Intelligence" (1879), op.cit., pp. 153-157.

(94) M.E.A., op.cit., p. 275

(95) ibid., p. 250

instinct to have a foot at the threshold of the door of existence, a step which was further supported and emphasised by McDougall. Generally, the XIXth Century literature on evolution shows plainly to have adopted the concept of instinct which filled a need in the theoretical system.

9. Classifications Attempted.

The rapidly increasing need for explaining behaviour in terms of instincts led to controversy as to the number of instincts involved. The differences in attitudes resulted in describing instincts variably, so that some writers, like R.C. Bolles⁽⁹⁶⁾ (1967), could talk of "The Great Instinct Controversy" ; others, like K. Lorenz⁽⁹⁷⁾ (1967), could speak of "The Great Parliament of Instincts". Yet, both writers are advocates of instincts as natural forces in all behavioural situations. The discrepancy inevitably led to a demand of ^{for} instinctual classification which is rather difficult. The difficulty arises especially if an evolutionary or phylogenetic

(96) Theory of Motivation, A Harper International Edition, N.Y. and London, p. 90.

(97) On Aggression, London, Methuen, title of Ch. VI.

classification is essayed, and even more, when no two identical classifications can be found in the current literature.

The problem of classifying instincts is no new one. It was familiar enough to the older psychologists from Descartes⁽⁹⁸⁾ up to the modern days. In reviewing the older classifications at the present time, two main groups may be pointed out; the one group comprises the facts revealed by the various methods of modern psychology, especially the methods of Sigmund Freud and his school;⁽⁹⁹⁾ The other group is related to the development of biological research, and the results achieved.⁽¹⁰⁰⁾ Just for the sake of brevity it may be appropriate to start from the more recent times.

"If we try to work out a rough classification of instincts" wrote E.B.Titchener (1911),⁽¹⁰¹⁾ "we find at the lower

(98) Drever, James (Snr), "The Classification of Instincts" B.J.Psych, vol.XIV, part 3, (1924). p. 248

(99) (1) See: Freud, Sigmund, (1915), "Instincts and their Vicissitudes" : In : Collected Papers, London, Hogarth, vol IV, Ch.4, (1925), another ed. Basic Books (1959).

(11) Drever, James, op.cit, pp. 248ff.

(100) Drever James, op.cit, pp. 248-249.

(101) A Text Book of Psychology, New York, MacMillan, (1924), (1924), pp. 463-464.

end of the scale a number of movements that grade off into the reflex - such things as coughing, smiling, sneezing, swallowing, threading our way on the street, beating time to music ... there are definite responses to particular stimuli. At the upper end of the scale, we find large general tendencies: the tendency that makes us take the world of perception as a world of real things; the emphatic tendency, that makes us humanise our surroundings, animate and inanimate alike; the social tendency, that makes us imitative and credulous ... the tendency to dual division, closely connected with the polar opposition of pleasantness - unpleasantness, which makes us classify the world by pairs, good - bad, active - passive etc". Between these two extremes, Titchener counted fear, love, jealousy, rivalry, curiosity, pugnacity, repulsion, self-assertion, self-ab^husement. These last nine instincts he termed "instincts proper". Two points may emerge from Titchener's calculated list. (1) Taking his point of view as it is, it would mean that there is quite a wide range of instinctive tendencies in the broader sense; the tendencies range from sneezing or coughing to classification in contrasted pairs. In the narrower sense, these tendencies extend from fear and pugnacity, through jealousy and rivalry, to self-abasement. (2) Titchener's enumeration of instincts seems to have been

influenced by William James (1890).⁽¹⁰²⁾ A third point may be mentioned here: To some extent, Titchener's classification conforms with that of E. Thorndike (1913).⁽¹⁰³⁾ The "large general tendencies" of the former writer can be correlated with the "inborn capacities" of the latter. Both distinguished between "instincts proper" and hereditary possibilities of mental life.

William James (1842-1910), for example, insisted that man has more instincts than any other mammal. He could enumerate forty-six such instincts ranging from the instinct of sucking to that of parental love. Included in his long list are some of the reflex movements or acts, like sneezing, snuffing, coughing, sighing, and so forth.⁽¹⁰⁴⁾ He used both "propensity" and "tendency" as synonymous with instinct. Yet, it is peculiar enough to find him restricting the term "propensity" to two instincts only, namely, the instinct of "secretiveness" and that of "love".⁽¹⁰⁵⁾ Two points may be indicated here: first,

(102) Principles of Psychology, 2 vols., London, MacMillan, vol II.

(103) Educational Psychology, vol I, the original Nature of Man, New York.

(104) Principles of Psychology, op.cit., vol I, Chap XXIV, pp. 383-441.

(105) ibid, pp. 433, 437.

it seems that James was not definitely sure of the instincts he nominated; for example, he referred to what he called the instinct of "cleanliness" and "modesty" as being "open to doubt"⁽¹⁰⁶⁾. In his confusion, James seems to have been like F. Galton (1883)⁽¹⁰⁷⁾ before him, who described somewhat vaguely certain tendencies such as "slavish instincts", "incapacity of relying on oneself and a faith in others"; of these he thought that "they have been ingrained into our breed" and "are a bar to our enjoying the freedom which the forms of modern civilisation are otherwise capable of giving us". Galton's instincts and capacities seem to be certain aspects of the gregarious instinct which McDougall emphasised later.

Secondly, James's defined instincts are vague and not so neatly designated as those given by McDougall. However, the essential thing in this connection is that he recognised the existence of instincts which he regarded as "the most prominent of the tendencies which are worthy of being called instinctive in the human species. It will be observed that no other mammal, not even the monkey, shows so large an array"⁽¹⁰⁸⁾.

(106) *ibid*, pp. 434-435.

(107) Enquiries into Human Faculty, *op.cit*, pp. 47-57

(108) Principles of Psychology, *op.cit*, p. 441.

John B. Watson, in his classification, mentions about twelve instincts.⁽¹⁰⁹⁾ However, it must be noted that Watson's attitude towards instinct is a wavering one, if not antagonistic; for he did not know "What the Nursery has to say about Instincts".⁽¹¹⁰⁾ The group of reactions in man he called "unlearned behaviour".⁽¹¹¹⁾ It may be said that he implicitly uses the notion of instinct, but he declared that the terms he used have no connection "corresponding to what is called an 'instinct',⁽¹¹²⁾". Terms like "capacity", "talent", "temperament", "mental constitution and characteristic" have no inherited origin; they depend, from his own point of view, on learning and training.⁽¹¹³⁾ It is habit, not instinct, which has the fundamental role in his scheme.⁽¹¹⁴⁾ "Such McDougallian instincts

(109) Psychology from the Standpoint of a Behaviourist, London, J.B. Lippincott Co., (1919), pp.254-261.

(110) The title of an article in: Psychologies of 1925, ed by C. Murchison, Clark University, Mass: Worcester.

(111) ibid, p. 1

(112) ibid, p. 1

(113) ibid, p. 2

(114) ibid, p. 6

do not exist"⁽¹¹⁵⁾ and accordingly, he thought, they are totally ruled out.⁽¹¹⁶⁾

It is to be noted, however, that a famous controversy developed between McDougall as the champion of human instincts and Watson and his supporters as advocates of the Pavlovian theory of "conditioning". Later on, the purposive behaviourists, under the lead of Tolman, showed how impossible it is to dispense altogether with instinct as a hereditary concept. So instinct is now used in America synonymously and alternately with "drives", "urges", "goals", and the like.

A more detailed classification founded on a behaviouristic basis is the one that Thorndike prepared. His long list (over 42) comprises instincts of attention, submissive as well as "the instinct of multiform mental activity" and "the instinct of multiform physical activity", through to the social instincts.⁽¹¹⁷⁾ The words "response" and "disposition" occur

(115) Behaviourism, London, Kegan Paul, 2nd ed., (1931)
p. 143

(116) Psychologies of 1925, p. 17

(117) Educational Psychology, vol. I, op.cit., chapters vi-xi.

in his terminology as synonymous with instinct. The long list of instincts may be regarded on his part as recognising instinct as being the basis of human nature. To him, "What original human nature shows is not a general tendency to self-revelation, but a multitude of special responses by facial movements, gestures, cries and gross bodily movements which act as potent situations to evoke attention and various adaptive responses from others of the species".⁽¹¹⁸⁾ Recognising both instincts and the consequent individual differences, Thorndike observed thus: "Since these differences in instinctive equipment are true causes it seems wise not to invoke other less probable traits to account for any fact which these seem fairly adequate to explain".⁽¹¹⁹⁾ Thorndike, however, listed four methods of classifying the original nature of man : (1) "By the functions which the tendencies perform". (2) By the responses which are their end-terms". (3) "By the situations which are their first-terms". (4) "By their origin or affinities in development".⁽¹²⁰⁾

(118) ibid, p. 159

(119) ibid, p. 203, vol II.

(120) ibid, p. 205, vol I.

Thorndike maintained⁽¹²¹⁾ that the classification by functions are the commonest. He thought that they have the advantage that it is easy to describe the instinct in an easily recognizable manner in this way. In support of this method, Thorndike referred to E.A. Kirkpatrick's⁽¹²²⁾ (1903) classification of instincts. Kirkpatrick's grouping of instincts runs like this :

I. Individualistic or Self-Preservative Instincts:

Feeding, Fearing, Fighting.

II. Parental Instincts.

Sex and courtship instincts, singing, self-exhibition, fighting for mates, nest-building.

III. Group or Social Instincts.

To arrange themselves in groups, to co-operate for the common good in attack and defence, seeking companionship, desiring the approval of group which one joins, pride, ambition, rivalry, jealousy, embarrassment, shame.

IV. Adaptive Instincts.

Tendency to spontaneous movement, tendency for nervous energy to take the same course that has just been taken, tendency to imitation, tendency to play, tendency to curiosity.

(121) ibid, pp. 205ff.

(122) Fundamentals of Child Psychology, pp. 51-63.

V. Regulative Instincts.

The moral tendency to conform to law, the religious tendency to regard a higher power.

VI. Resultant and Miscellaneous Instincts and Feelings:

The tendency to collect objects of various kinds and to enjoy their ownership, the tendency to construct or destroy and the pleasure of being a power or a cause, the tendency to express mental states to others of the species and to take pleasure in such expression, the tendency to adornment, and the making of beautiful things, and the aesthetic pleasure of contemplating such objects.

The difficulty of classifications by functions is that it may be impossible to distinguish one instinct or set of instincts from another. (123)

Classifications by responses, Thorndike thought, have the advantage of "economy". This could be acceptable as the acts of, say, sneezing or smiling, can be observed.

(123) See also:

Bernard, L.L., Instinct: A Study in Social Psychology, London, George Allen, (1924), pp. 150ff.

Classifications by the situations are not clearly defined. The psycho-physical mechanism involved may not be easily inferred.

As to classifications by affinities, Thorndike had this to say: "Such a classification would be a 'scientific' or 'natural' one because it would arrange man's instincts and capacities for purposes of study in an order corresponding to their genesis in the real world, and so incite students to note the elements in which heredity carries along man's equipment and the possibilities for its future evolution".⁽¹²⁴⁾ It may be said that this can be considered as the most scientific way of grouping the original tendencies in man. It shows that behaviour as well as structure has its ancestral roots.

It appears that Thorndike's ordering and grouping of instincts is to some extent similar to the classification given by H. Rutgers Marshall (1896).⁽¹²⁵⁾ Marshall divided what he called "the great mass of instincts" into three main classes, determined by three diverse types of biological ends; the three

(124) Vol. I, op.cit., p. 208

(125) "Consciousness and Biological Evolution" MIND,
Vol. V, No. 20, p. 524.

groups are :

- I. The instincts which tend to render persistent the life of the individual.
- II. The instincts which tend to render persistent the species to which the individual belongs.
- III. The instincts which tend to render persistent the social aggregates formed by individuals in the higher process of development.

Marshall seems to have been followed by Th. Ribot (1897),⁽¹²⁶⁾ who intended to divide instincts into three groups:

Group I comprises those that belong to the life which biologists call "organic" or "vegetative". This group is the earliest in date and it is essentially physiological. The function of this group is nutritive mainly. Three subdivisions come under this head: (a) "reception", showing itself in consciousness by hunger and thirst; (b) "transformation" which is purely physiological; and (c) "restitution" which displays itself in instinctive movements.

(126) The Psychology of the Emotions,
London, Walter Scott, pp. 193-197.

In Group II, Ribot spoke of instincts of which he said that they belong to "relative life". They are chiefly psycho-physiological and correspond to reception and restitution.

Group III, which is essentially psychological, has the end of conversation and development of the individual as a conscious being. Emotions stem from this group.

The odd thing about Marshall's and Ribot's classifications is that they worded their views in general terms. The instincts they discussed are not altogether clearly designated. They talked of general classes rather than specific individual instincts. Yet Ribot did point out that instincts are characterised by innateness, specificity and relative fixation.

W.B. Pillsbury's (1911)⁽¹²⁷⁾ classification appears to be closely related to those given by Marshall and Ribot. He, too, spoke of instincts which are mere undefined movements. He thought that instincts may be conveniently grouped as "individual", "racial" and "social". In this connection, Pillsbury's attempt seems to be similar to

(127) The Essentials of Psychology, New York, MacMillan and Co., another impression (1922), Ch.X, pp. 267-287.

W. Trotter's (1919)⁽¹²⁸⁾ move; Trotter was inclined to talk of four instincts only, namely, self-preservation, gregarious, sex, nutrition. In discussing instinct, Trotter was concerned chiefly about the structure of society. Pillsbury's purpose, on the other hand, seems to be mainly psychological. He emphasised the individualistic instincts which care for "the essential movements of the child" ; included in this phrase are the fears and discomforts that the child may show.

However, an increasing emphasis in the direction of instinctual classification has been shown by one psychologist after another. In their grouping of instincts two factors or schools appear to have emerged; the one, such as the Freudians, for example, using a few wide classes, the other, such as Wm. James and Thorndike, giving long lists of separate instincts. Between these two extremes is a list like that of Wm. McDougall, which, as it will follow below, contains about a dozen distinct instincts, to each of which is linked a primary emotion.

McDougall's influence of classification shows itself clearly in A.G. Tansley's (1921)⁽¹²⁹⁾ work. Tansley

(128) Instincts of the Herd in Peace and War, another ed (3rd), (1949), London, Ernest Benn, Ch.2

(129) The New Psychology and its Relation to Life, London, George Allen, op.cit.

attempted to reconcile his classification with McDougall's. He tried to subsume McDougall's twelve headings under three main items of his own :

1. Ego-complexes involve: self-assertion, pugnacity, curiosity, feeding, acquisition, construction, submission, flight, repulsion.
2. Sex instincts : under this head he placed, parental instincts and reproductive instincts;
3. Herd instinct : comprises the gregarious one. Such is Tansley's view succinctly. The three headings (1,2, and 3) all correspond to self-preservation, tribal-preservation, and racial-preservation. respectively.

Like Tansley, there have been other writers who in their groupings of instincts showed traces of McDougall's impact, namely, Lloyd Morgan (1921)⁽¹³⁰⁾, Ernest Jones (1924)⁽¹³¹⁾, A.H.Burlton Allen (1930).⁽¹³²⁾ Morgan distinguished instincts of three levels: (1) simple motor tendencies; (2) mid-level instincts; with this level he thought many writers, including McDougall,

(130) "Instinctive Disposition" in *Scientia*, October (1920).

(131) "The Classification of Instinct" B.J.Psychology, vol. XIV, part 3, (1924).

(132) Pleasure and Instinct: A Study in the Psychology of Human Action, London, Kegan Paul.

deal; (3) two comprehensive instincts comprising (a) "all the behaviour which falls under self-preservation" ; and (b) "all the behaviour which falls under race-maintenance". It is to be noted here, however, that swimming, pecking and scratching, which Lloyd Morgan called "low-level instincts" are not instincts in the proper sense. They are mere motor mechanisms which subserve teleological purposes.

To Ernest Jones,⁽¹³³⁾ it seemed useful to group all individual manifestations into two: (a) "attraction" or "like" ; this would comprise hunger and sexuality, with two subordinate members of curiosity and possessiveness. (b) "repulsion" or "dislike". This accounts for the ego instincts which are made up of aversion, disgust and flight.

As to Burlington Allen's notion, he seemed to have been of the opinion that the original instinctive equipment of man is, more or less, made up as follows:

1. The self-maintaining process; it includes growth and propagation, together with a number of activities which are subsidiary and are created in the cause of evolution.
2. In the second place come two impulses in which there expresses itself the nature of the spiritual element lying behind the

(133) B.J.Psychology, vol. XIV, part 3, (1924), op.cit.

(134) Bernard, L.L., op.cit., pp. 154-162.

facts of life.

3. Lastly there are fear and anger, which act as reactions protecting the other impulses.

Other various classifications of instinct have been carried out by different American writers,⁽¹³⁴⁾ like S.S.Colvin (31 instincts), M.F.Meyer (8 instincts), W.C.Bagley (5 categories), Howard C.Warren⁽¹³⁵⁾ (31 instincts), and above all R.S.Woodworth,⁽¹³⁶⁾ who named over (110) instincts. The latter writer, like Watson, was inclined to speak of instincts as "unlearned trends". He thinks disputes arise if the word "instinct" is restrictedly used. It might be contrasted with habit. For him there is no sharp line which can be drawn between instinct and habit, this is so because every activity, from Woodworth's point of view, has an unlearned aspect and a learned side.⁽¹³⁷⁾ Besides, he preferred to speak of "motives" and "drives" instead of instinct. He used to speak of "maternal motive", for example, instead of maternal instinct; "drive for

(134) Bernard, L.L., op.cit, pp. 154-162.

(135) Human Psychology, Boston, (1922), p.106; see also Bernard, L.L. "The Misuse of the concept of Instinct" Instinct, Insight ed., op.cit, p.15.

(136) Psychology : A Study of Mental Life, (1948), 1st published in Britain (1922), pp. 138-169.

(137) ibid, p.371.

exploration", "fighting drive" and "anger drive" are so often /
used rather than instinct. (138) The motive he defined as "a
state or set of the individual which disposes him for certain
behaviour and for seeking certain goals". (139) This definition
is more or less congruous with McDougall's notion of instinct
as set out in his definition, as will be seen later. For
Woodworth, a motive, or drive, releases some of the organism's
store of energy and directs it into certain channels. The
words "motive" and "drive" are employed by Woodworth to mean
one and the same thing: to release energy and to seek certain
ends or goals. Tolman mentioned the "teleological" and "reflex"
type of theories. (140) The former type defines and identifies
instincts in terms of ends. These ends themselves may be defined
in various ways: "biologically", "mentalistically" or
"behaviouristically". (141) The term "teleological" Tolman used
in a purely descriptive, "non-metaphysical" sense. A

(138) ibid, pp. 376-377, 374-382.

(139) ibid, p. 363

(140) Tolman, E.C., "The Nature of Instinct" The Psychological
Bulletin, vol.20, No.4, (1923), p.200.

(141) ibid, p. 200.

teleological theory, from Tolman's standpoint, may be ultimately "mechanistic", provided merely that its immediate descriptions are in terms of ends. These ends, themselves, may be finally reducible to purely naturalistic phenomena.⁽¹⁴²⁾ This evidently shows the difference between the new general trend in the behaviouristic purposive theory led by Tolman, Hull and Skinner, on the one hand, and on the other, McDougall's purposive or hormic theory which will be described later.

Tolman further grouped the teleological theories into three sub-varieties :⁽¹⁴³⁾

(a) The biological, (b) The mentalistic, (c) The behaviouristic.

With regard to (a), Tolman observed that "a solely biological type of theory has probably been advanced by no one. But a biological flavour has been given to the other types by the tendency of resorting to biological categories in helping to make up one's 'lists' of instincts or of fundamental behaviours ..."⁽¹⁴⁴⁾ Considering Tolman's statement, one finds that it is not altogether well-founded. For McDougall's theory of

(142) ibid, p. 200

(143) (i) ibid, p. 208, see also :

(ii) Warren, H.C., "Mechanism and Teleology in Psychology" Psychological Review, vol.32, No.4, 1925, pp. 266, 271-272.

(144) "The Nature of Instinct" op.cit, p. 208

instincts is based mainly on biological grounds; and Drever, in his classification of instincts, attempted not only a psychological one, but a clear biological classification as well, as it will be shown soon in this chapter. Tolman's argument, therefore, cannot be accepted *prima facie*.

Regarding (c) Tolman mentioned what he called "the confessedly behaviouristic"⁽¹⁴⁵⁾ attitude of the teleological theories. In this category he classed Woodworth, Craig and Dunlap.⁽¹⁴⁶⁾ Here a point is to be made clear, that is, it would be a misjudgement on Tolman's part to regard Woodworth as an avowed behaviourist. For, if the word "dynamist" would not suit Woodworth well, the term "eclectic" psychologist may describe him justly. Concerning Craig and Dunlap, there will be more about them in another place.

Just before discussing the category (b) which comprises McDougall and Drever as the chief exponents of the mentalistic variety of the teleological theory, there should be a

(145) ibid, pp. 209-210.

(146) ibid, pp. 210-211.

word about the reflex theory.*

The reflex theory identifies and defines instincts primarily in terms of the direct sensori-motor mechanisms (reflexes) which they involve, instead of in terms of the ends which they subserve. It has two sub-types. Tolman categorised them as: "(A) the type which conceives the instincts in terms of relatively simple sensori-motor connections" ; and "(B) the type which conceives them in terms of complex sensori-motor patterns".⁽¹⁴⁷⁾ The first of these two types (the simple reflex theory) is to be found in its purest form in J. Loeb's Forced Movements, Tropism and Animal Conduct (1918).⁽¹⁴⁸⁾ The main examples of (B) can be traced throughout J.B. Watson's works.⁽¹⁴⁹⁾ Thorndike is grouped with the (A) type.⁽¹⁵⁰⁾

* The term "reflexolog" appeared for the first time in 1912. See Psychologies of 1930, ed. by Carl Murchison, op.cit, p.224, an article by Alexander Schneider.

(147) "The Nature of Instinct" , op.cit, pp. 200-201.

(148) p. 209

(149) especially his ; Behaviour: An Introduction to Comparative Psychology (1914).

(150) "The Nature of Instinct" op.cit, p. 201, see also : Thorndike's Educational Psychology, vol I, op.cit,

Tolman seems to have misjudged,⁽¹⁵¹⁾ to some extent, McDougall's position. He thought that McDougall's classical doctrine contained in, An Introduction to Social Psychology (1908), represents an admixture of all types of theory. He mistakenly thought that it combines a mentalistic variety of the teleological theory with certain indications of a reflex theory. In point of fact, McDougall totally rejected "The mechanical reflex theory"⁽¹⁵²⁾ which, in origin, descends from Descartes's philosophy. He did not accept the argument that behaviour is to be interpreted as merely the issue of the play of the nervous currents, started in the sense-organs by stimulations from the physical world. McDougall made it clear⁽¹⁵³⁾ that the reflex action may be inhibited by the interference of stimuli other than the one that initiates the action. The instinctive action must not be regarded solely as simple or compound reflex action. It profoundly differs from purely reflex activity in being a persistent striving towards an end. In McDougall's own words, the difference is this, "In simple situations in which the organism (man or animal) easily and immediately attains its

(151) "The Nature of Instinct" op.cit., p 201.

(152) An outline of Psychology (1923), London, Methuen, pp 21ff.

(153) An Introduction to Social Psychology, London, Methuen, 25th ed. (1943), pp. 413, see also p.25.

natural goal, instinctive action often proceeds in a routine fashion, repeating itself without obvious variation on repetition of the exciting impression or situation. It is when the instinctive action cannot attain its goal in the simplest most direct fashion that its peculiar nature and its profound difference from mechanical reflex action clearly appear".⁽¹⁵⁴⁾ McDougall's theory is teleological in defining instincts in terms of emotions many of which have directional and conative implications. In his treatment an emotion becomes almost the inside of an instinct. As "a true vitalist",⁽¹⁵⁵⁾ as K. Lorenz has described him, McDougall repudiated every causal physiological explanation of animal behaviour. The notion implied in An Introduction to Social Psychology (1908) and An Outline of Psychology (1923), is that purposive (later called hormic) causation is the real reason of motivating an animal to act in a given way. The only exception he made in An Outline of Psychology, however, is that he explained what Lorenz has called "the malfunctioning of the light compass-orientation",⁽¹⁵⁶⁾ which causes insects to fly at night into flames, by "tropism".⁽¹⁵⁷⁾

(154) ibid, p. 413; see also: An Outline of Psychology, op.cit, pp.53-54.

(155) On Aggression, (1967), op.cit, p. 42

(156) ibid, p. 199

(157) An outline of Psychology, op.cit, pp.59-64.

However, concerning McDougall's own classification of instincts, it may be said that it is more clearly stated. Three different but allied classes of instincts are indicated. These are placed under the following categories:⁽¹⁵⁸⁾

(a) Principal instincts; under this heading come these instincts:

1. The instinct of flight (emotion of fear);
2. The instinct of repulsion (emotion of disgust);
3. The instinct of curiosity (emotion of wonder);
4. The instinct of pugnacity (emotion of anger);
5. The instinct of self-assertion or self-display (emotion of elation, or positive self-feeling);
6. The instinct of self-abasement (emotion subjection, or negative self-feeling);
7. The parental instinct (tender emotion);
8. The sex instinct (no specific emotion is indicated).

The last instinct in this group illustrates very clearly a much neglected fact on which McDougall insisted, namely, that "an instinct is not only an innate disposition to act and to feel in a more or less specific manner, but is also an innate disposition to perceive or perceptually discriminate those things towards which

(158) (1) An Introduction to Social Psychology, op.cit., pp.43-56, 228-239, 240-254, 331-363;

(11) An outline of Psychology, op.cit., pp. 71ff, 110,118,133.

such reactions are demanded by the welfare of the species".⁽¹⁵⁹⁾

(b) Instincts of less-well defined character; this category comprises:

1. Instinct of reproduction (no specific emotion is attached to this instinct, which is unusual).
2. The gregarious instinct (again, no emotion is given);
3. The instinct of acquisition (no emotion is mentioned);
4. The instinct of construction⁽¹⁶⁰⁾ (no emotion is mentioned);

(c) Minor Instincts, this part consists of :

1. The instinct of sucking (no emotion);
2. The instinct of wailing (no emotion);
3. The instinct of crawling (no emotion);
4. The instinct of walking (no emotion);
5. The instinct of winking (no emotion);
6. The instinct of shrinking⁽¹⁶¹⁾ before a blow (no emotion);
7. An instinct to relaxation, rest and sleep;
8. An instinct (tendency) to scratch an itching spot;

(159) An Introduction to Social Psychology, op.cit., p.334.

(160) ibid, pp.69-75, see also: pp.255-259, 277-279.

(161) ibid, pp. 35, 397-399.

9. An instinct (tendency) to coughing;
10. An instinct (tendency) to sneezing;
11. An instinct (tendency) to yawning;
12. An instinct (tendency) to urination;
13. An instinct (tendency) to defecation;

The reason why McDougall considered the (13) simple instincts above as "minor" and he sometimes described them as "obscure", was mainly because they do not "conform in all ways to the type of instinctive action".⁽¹⁶²⁾ Yet he regarded them as "minor instincts" rather than reflexes, because of what he called their "impulsive" and "compulsive nature". They reflect the expression of instincts, although they do not seek goals external to the organism. In naming these instincts, McDougall seems to have been following Wm. James. The only difference between them, which is a big one, is that while James counted them among the main instincts, McDougall placed them in a minor position which is close to "sensation-reflexes".⁽¹⁶³⁾

At any rate, in the human being only a few of these simpler instincts mature soon after birth; they are

(162) ibid, p. 398

(163) ibid, p. 397; the expression above was originally quoted by McDougall who seems to have found it appropriately suits the "obscure" instincts.

displayed in movements determined purely by the innate dispositions. Taken together, instincts in categories (a) and (b) could form a list of twelve clearly indicated instincts. These instincts are well presented in a diagrammatical manner prepared by F.V. Smith⁽¹⁶⁴⁾ (see Appendix I). The list is later enlarged by McDougall under the heading "propensities"⁽¹⁶⁵⁾ as a new proposed title. Specifically, eighteen propensities are enumerated. They are:

1. To seek food (food-seeking propensity).
2. To reject and avoid certain noxious substances (disgust propensity).
3. To court and mate (sex propensity).
4. To flee to cover in response to violent impressions that inflict or threaten pain or injury (fear propensity).
5. To explore strange places and things (curiosity propensity).
6. To feed, protect and shelter the young (protective or parental propensity),
7. To remain in company with fellows and, if isolated, to seek that company (gregarious propensity).

(164) Explanation of Human Behaviour, 2nd ed., op.cit., pp. 182-183.

(165) The Energies of Men : A Study of the Fundamentals of Dynamic Psychology, London, Methuen, (1939) 4th ed., 1st published (1932), chapter VII, "Innate Propensities and Abilities of Man".

8. To domineer, to lead, to assert oneself over, or display oneself before, one's fellows (self-assertive propensity).
9. To defer, to obey, to follow, to submit in the presence of others who display superior powers (submissive propensity).
10. To resent and forcibly to break down any thwarting or resistance offered to the free exercise of any other tendency (anger propensity).
11. To cry aloud for assistance when our efforts are utterly baffled (appeal propensity).
12. To construct shelters and implements (constructive propensity).
13. To acquire, possess, and defend whatever is found useful or otherwise attractive (acquisitive propensity).
14. To laugh at the defects and failures of our fellow creatures (laughter propensity).
15. To remove, or to remove oneself from, whatever produces discomfort, as by scratching or by change of position and location (comfort propensity).
16. To lie down, rest and sleep when tired (rest or sleep propensity).
17. To wander to new scenes (migratory propensity).
18. A group of very simple propensities subserving bodily needs, such as coughing, sneezing, breathing, evacuation. (166)

(166) ibid, pp. 97-98.

In connection with the list of the above propensities two points are to be indicated: (1) It is to be noted that propensities 11,14,15,16 and 17 have been mentioned for the first time; they do not appear in the list given in An Introduction to Social Psychology. (2) The unspecified propensities, namely, coughing, sneezing etc., added to the minor instincts given before, may form a long list of such innate dispositions that subserve the unlimited activities of the individual.

As a corollary to the list of native propensities, McDougall declared⁽¹⁶⁷⁾ that it is not put forward as final and correct in all respects. Under No (13), for example, in the list it may be that two or more propensities are subsumed: one to take possession, one to store or hoard; it may be that under item (5) several distinct propensities can be brought together. Regarding no.(17), McDougall was not quite certain whether or not it is really a propensity inherent in the constitution of the organism. However, despite all the uncertainties, "there is no room for doubt that such inborn propensities are the very foundation of all our mental life, that they provide the driving forces, the hormic energies, manifested

(167) ibid, p. 98

in all our activities from the simplest to the most complex".⁽¹⁶⁸⁾
From this concise citation it seems apparent now that although
instinct is replaced by propensity, this replacement does not
actually affect McDougall's attitude. The common factor is still
maintained, namely, the innateness of propensities and the fact
that it is, like instinct, a prime mover of our mental life. The
burning question now is why, then, has propensity been
substituted for instinct ? The answer to this question will be
dealt with in a following chapter.

McDougall pointed out some general or "non-
specific" innate tendencies which he called "pseudo-instincts".
Chief among these are "sympathy", "suggestion" and "imitation".⁽¹⁶⁹⁾
These three are closely allied as regards their efforts, "for in
each case the process in which the tendency manifests itself
involves an interaction between at least two individuals, one of
whom is the agent, while the other is the person acted upon",⁽¹⁷⁰⁾
and in each case the result of the process is some degree of
assimilation of the actions and "mental state of the patient to
those of the agent".⁽¹⁷¹⁾ McDougall regarded sympathy, suggestion

(168) Energies of Men, p. 99

(169) Introduction to Social Psychology, op.cit., p. 77

(170) ibid, p. 77

(171) ibid, p. 77

and imitation as three forms of mental interaction of fundamental importance for all social life, both of men and animals.⁽¹⁷²⁾ As chief aspects of social life they will be dealt with more fully in another chapter. An allusion has been made to them here as "pseudo-instincts" classed with real ones. At the moment it must be added that McDougall's list of instincts is short and clear compared with, say, James's, Thorndike's, or Woodworth's lists. One is not disposed, therefore, to accept MacCurdy's criticism of McDougall's instincts as "long and diffuse catalogues of instincts ... unfocussed formalities".⁽¹⁷³⁾

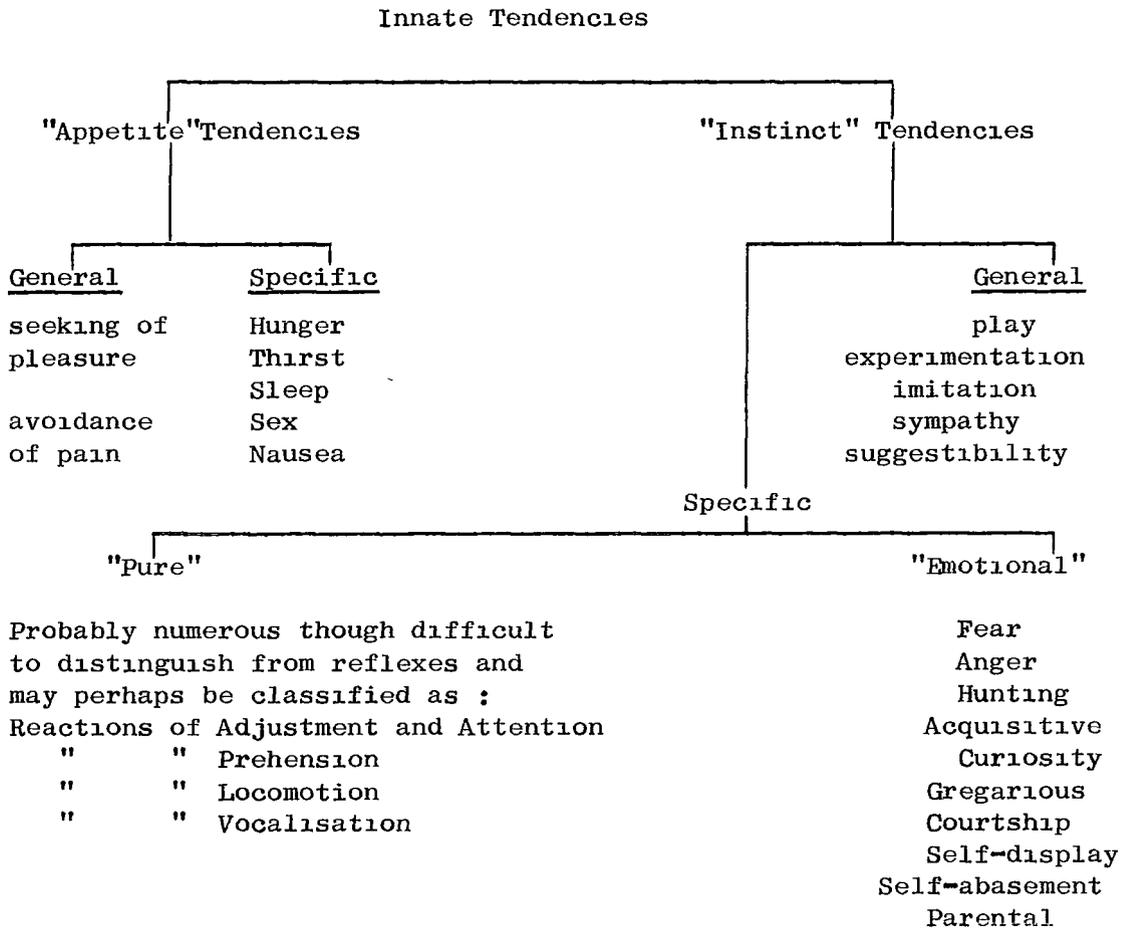
It is worthwhile comparing McDougall's instincts with Drever's classification. In his : Instinct in Man (1917),⁽¹⁷⁴⁾ Drever distinguished two groups of instinctive tendencies in man : (1) the group characterised by specific responses to certain situations. Of this group he names "sucking" and "biting" an object placed in the mouth. (2) The other group consisting of tendencies specific in various degrees, accompanying emotions, when these are aroused. No example of this second group has been given. (3) A third group, which he did not class so, of innate tendencies like play and imitation: these are non-specific, nor

(172) ibid, pp.77-78.

(173) MacCurdy, Problems of Dynamic Psychology, Cambridge Univ. Press, (1923), Ch.XVIII.

(174) Cambridge Univ. Press, 2nd ed. (1921), pp. 166-167.

are they linked with situation or response. In regarding play and imitation as non-specific tendencies, Drever, one may say, is following McDougall who treated them so. Drever's classification of instinct is schematically this: (175)



(175) Instinct in Man, p. 169

The classification shown above is on the same general line as that of McDougall. Drever himself admitted this. The chief difference in Drever's own words is :"(a) the classifying of both sex impulse and primitive disgust with the "Appetite" tendencies, rather than with the "Instinct" tendencies; (b) the addition of experimentation to the general 'instinct' tendencies", which he regards as equivalent to the transferring of "constructiveness" from the specific to the general", since that is one way in which this general tendency manifests itself; (c) the definite adding of the gregarious instinct, and the courtship tendency, the hunting instinct, and the acquisitive tendency to the specific 'Instinct' tendencies, and therefore to the group of tendencies, ... which ... develops into a specific primary emotion."⁽¹⁷⁶⁾

Another psychological classification which Drever attempted is contained in : An Introduction to the Psychology of Education (1931).⁽¹⁷⁷⁾ A minor addition has been made, that is "Exercise" is now included in the appetitive specific tendencies. "Flight", "Pugnacity" and "Repulsion" are added to the specific emotional tendencies. A point is to be indicated now, ^{1 2 -} e.g. that

(176) Instinct in Man, op.cit, pp. 168-9.

(177) London, Edward Arnold, p.57

Drever has now used the word "Reactive" as a sub-heading instead of "Instinct tendencies" as used in the schematic diagram in Instinct in Man. Whether or not the term "reactive" and its noun "reaction" can be substituted for instinct and instinctiveness, is highly questionable. This is so, because an instinct, in its proper sense, is not solely a reaction; it is an urge, a mover, a directing power. In a word it is a cause leading to an end, while reaction is both ,limited in scope and more abstract in nature.

Before any comment is to be made on Drever's psychological schematic classification, it is important to note his biological classification. Three groups of biological ends⁽¹⁷⁸⁾ are being, Drever thinks, subserved by instinctive tendencies, they are :

1. Tendencies whose end is the preservation of the life of the individual.
2. Tendencies whose end is the preservation of the species,
3. Tendencies whose end is the maintenance of the social groups, to which the individual belongs. For short these three groups Drever designated "ego", "sex" and "herd" instincts.

(178) B.J. Psych., vol. XIV, part 3, (1924) op.cit,
pp. 249-250.

The biological classification⁽¹⁷⁹⁾ would run somewhat as follows:

<u>Self</u>	<u>Sex</u>	<u>Herd</u>
<u>Simple Adaptive reactions</u>	<u>Sexual Appetite</u>	<u>Gregarious Instinct</u>
Fear	Courtship	Sympathy
Anger	Parental Instinct	Imitation
Acquisition (see Herd).		Suggestibility ?
Hunger	Play (see self)	Acquisition (see self)
Nausea		
Play ?		

Self-Display

Comparing the psychological classification with the biological one above, one can see that human instincts classified on a psychological basis is simpler and more satisfactory. (1) Two groups can be distinguished which appear to differ fundamentally from one another psychologically: (a) the "appetitive" tendencies; the aversive is included as well. (b) The instinctive, or what Drever prefers to call "reactive" as opposed to appetitive. (2) Among both appetitive and reactive tendencies a distinction could be made between tendencies which are relatively specific and tendencies which are relatively not so. (3) A discrimination

(179) An Introduction to the psychology of Education, op.cit,
p. 49

could be easily observed between what he calls "simple" tendencies such as "play", "prehension" and the like, and "emotional" reactive tendencies, such as "flight", "pugnacity" and so forth. Still further, "suggestion", "sympathy", and "imitation", which McDougall calls "pseudo-instincts", Drever has called "general" instincts. Under this last category, Drever also included "play" and "experimentation". The general impression that can be deduced from such a nomination is that there are instincts of wider connotation. Such a notion may not prove tenable as it rests mainly upon personal judgement rather than on enough evidence adduced in its support. Besides, no particular emotions have been named as accompanying the "general" instincts. Under the heading "specific instincts" in the diagram,⁽¹⁸⁰⁾ two categories are given : "pure" and "emotional". Under pure, Drever placed "prehension", "locomotion" and "vocalisation". It may be said that it is highly debatable if there are any instincts of such names. It could be said, however, that "locomotion" may correspond to McDougall's minor instincts of crawling and walking; and "vocalisation" may be identified with McDougall's simple instinct of wailing; yet the question remains where "prehension" is to be placed. The usage of the adjective "emotional" may mean that instincts are known by their accompanying emotions, instead

(180) Instinct in Man, op.cit. p.169.

of the other way round which is both logical and more orthodox. To accept Drever's standpoint, it would require one to say, for example, "the emotional instinct of fear" or "the emotional instinct of anger" which can mean nothing at all. To describe an instinct by its emotion is quite unfamiliar. Drever's usage, however, shows that he stressed the emotion rather than the instincts which contains it. Probably this is one of the essential differences between his view and that of McDougall.

As to the biological classification, Drever himself was in some doubt of classing some instincts in certain places. "Play", for instance, for no obvious reason, he classed with simple adaptive reaction and with sexual appetite. Concerning this classification, however, it can hardly be said on what basis it has been done. Anyway, instincts could be divided, on Drever's view, on psychological bases into: (1) general and specific, (2) under each head into appetitive and reactive, and (3) under the last head into simple and emotional.⁽¹⁸¹⁾ The biological classification is more confusing, and less clear in character.

(181) (1) B.J.Psych, vol. XIV, (1924), op.cit, p. 250.

(11) An Introduction to the Psychology of Education, op.cit, pp. 50-51.

(111) (a) see also: Drever, J. (with Mary Collins), Psychology and Practical Life, London, (1936).

(b) _____, Experimental Psychology, London, Methuen 6th ed, (1941).

A word must be said in connection with the term "appetite" and its adjective "appetitive". The word "appetite" McDougall used as synonymous with purpose. He accepted the appetitive point of view so long as it implies no difficulty in explaining behaviour. So the psychologist could "study appetitive processes", in order "to ascertain the most general laws" of behavioural processes. In this particular case there would be no difference between the psychologist and the physicist who studies and explains his facts in terms of the conception of mechanical process. He seems to have used appetite in the same sense of "curiosity" or "wonder", only invoked into action by certain conditions. His chief aim appears to have been to formulate general laws based on appetite, according to which could be explained "the acts of human beings, all our volitions, our efforts, our resolutions, choices and decisions".⁽¹⁸²⁾ Drever, on the other hand, used "appetite" more or less in a strict physiological sense. Like David Katz,⁽¹⁸³⁾ he employed it in the sense of "need". To be employed in this manner, it may not

(182) (i) An Introduction to Social Psychology, op.cit., pp.311, 312-313.

(ii) An outline of Psychology, op.cit. pp.100-103.

(183) (1) Animals and Men, London, Longmans, (1937).

(11) "Psychological Needs" in : Human Affairs, ed by R.B.Cattell, London, MacMillan, (1937), pp.36ff.

involve the implication of a conative aspect, which McDougall emphasised in his treatment of appetite. To maintain with Drever that appetite is a need like hunger and thirst, determined by the organic constitution of the individual, may entail the notion that aggression is a need, too. Such an argument can hardly be adopted at all. Drever's contention, however, is described⁽¹⁸⁴⁾ as "a more gloomy view". So in order that a confusion regarding the classification of instincts and appetite could be avoided, one may tentatively suggest two broad headings under which instincts would be categorised : "specialised" and "semi-specialised". Under the one come instincts with specific peculiarity such as parental instinct, self-display instinct, instinct of curiosity, the gregarious instinct, and so forth. Under the other category could be placed instincts which are unspecifically characterised, viz, McDougall's "pseudo" and "minor" instincts, as well as Drever's "appetite" and the biologically general ones. By doing so, a variable and misleading categorisation could be avoided.

In summary, the concept of instinct seems to have originated in connection with certain efforts to delineate clear-cut differences between man and animals. Human conduct was

(184) Flugel, J.C., Man, Morals and Society, London, Duckworth, (1945), p.249.

attributed to reason essentially, whereas animal behaviour was thought to be depending mainly on instincts. At any rate, the concept came into the focus of scientific thinking as a result of Darwin's investigations. This does not mean, however, that the dichotomy between the behaviour of man and that of animals was entirely eliminated. Yet, in spite of some objections raised, a need for explaining behaviour (of man and animals) in terms of instincts became popular. The increasing popularity of instinct resulted in attempts at its classification. This inevitably led to a situation where various classifications have been attempted; none of which could be regarded as satisfactory as each of them viewed the position differently. The idea must have been "scientific travel is not a home-coming", as W. Grey Walter has suggested recently (1965).⁽¹⁸⁵⁾ It so often occurs that scientists reach an agreement only to diverge; and a topic like instinct has many more diverging points than converging ones. However, the essential thing is that the original meaning of the word and its concept are no longer in doubt any more; and a remedy could be found in McDougall's advocacy of instinct. By both definition and classification he redressed the long-standing confusion connected with it.

(185) The Living Brain, Pelican ed., p. 139

CHAPTER VI.

INSTINCT IN SUBSEQUENT PSYCHOLOGICAL
DISCUSSIONS.

1. The Concept of Instinct in Ethological Observations.

The ethological and neurological field is too vast to cover within the scope of this study; besides, it would be out of place to concentrate upon its innumerable details. Yet a brief account of some of its historical and observational issues is inevitable, so long as such results may cast some light on the innate bases of animal behaviour.

The word "ethology" is in no way an innovation.⁽¹⁾ Some writers, however, such as R. Fletcher⁽²⁾ (1957), V.G. Dethier and Eliot Stellar⁽³⁾ (1965), besides others, tend to associate it with K. Lorenz and N. Tinbergen. E.H. Hess⁽⁴⁾

(1) Thorpe, W.H., "Ethology as a new Branch of Biology", Readings in Animal Behaviour, ed. by McGill, Thomas E., New York, Holt, (1965), pp.34-35.

(2) Instinct in Man : In the Light of Recent Work in Comparative Psychology, London, George Allen and Unwin.

(3) Animal Behaviour : Its Evolutionary and Neurological Basis, 2nd ed, Prentice Hall, Foundations of Modern Biology Series.

(4) "Ethology : An Approach toward the Complete Analysis of Behaviour", New Directions in Psychology, New York, Holt, pp.162-163; the same paper is published in a condensed form in Readings in Animal Behaviour, ed. by McGill, Thomas E., New York, Holt, (1965).

(1963), on the other hand, traces its history back to the early eighteenth century (1702, 1716, 1740) when observations of certain species of birds were then made by some zoologists, and distinctions between innate and acquired activities were indicated. Yet F.V. Smith⁽⁵⁾ (1960a, 1968a), who seems to be more thorough, goes even farther than Hess did, and relates its origin to Aristotle. Along with Aristotle, Smith has listed J.H. Fabre, H.S. Jennings, E.G. and G.W. Peckham, G.J. Romanes, R.M. Yerkes, R.W.G. Hingston, E.L. Thorndike, and other names. "It would be quite unfair", writes Smith, "to suggest that experimental study of animal behaviour began with the publications of Lorenz and Tinbergen and others of this school".⁽⁶⁾ This statement preceded the many names enumerated, and some of which have just been mentioned. The quotation clearly indicates that Smith is rather emphatic in his position, namely, ethology as a discipline and the basic ideas underlying its background, are earlier than some writers tend to think.

Ethology, however, reflects a certain way of study concerning animal behaviour. Along with the naturalistic

(5) (1) Explanation of Human Behaviour, op.cit., p.158.

(11) Imprinting, MSS.

(6) Explanation of Human Behaviour, op.cit., p.158.

method and the psychological techniques,⁽⁷⁾ it represents a third scientific approach which aims to interpret the animal performances. There seems to be a general agreement among writers such as E.H. Hess (1963, 1965), W.H. Thorpe (1965), F.V. Smith (1960a, 1968a) and others, that it is Charles Darwin who is to be credited as "an early forerunner" of the ethological study. In The Expression of Emotions in Man and Animals (1872), Darwin indicated numerous complicated and consistent patterns of behaviour, which he ascribed to innate factors. It is possible in Darwin's writings to discern the beginnings of the modern ethological approach which places great stress on the pattern of behaviour. "There are behaviour patterns", wrote Lorenz⁽⁸⁾ (1955), "whose geological age is obviously as great as that of the most conservative bodily characteristics" and again, "the comparative method to which we owe all or most of our knowledge concerning the evolutionary history of living creatures is just as applicable to those behaviour patterns as to any organs". Darwin was in fact

(7) Thorpe, W.H., "Ethology as a new Branch of Biology", Readings in Animal Behaviour, op.cit., p.35; see also: Hinde, R.A., "Some Recent Trends in Ethology", Psychology: A Study of Science, vol.2, (1959), ed. by : Koch, S., New York, McGraw-Hill, pp.561-610.

(8) Lorenz, K.Z., "Morphology and Behaviour Patterns in Closely Allied Species", in Schaffner, S. (ed), Transactions of the first conference on Group Processes, New York, Josiah Macy, Jr. Foundation, pp.168-220.

investigating the application of his evolutionary principles to actual behaviour in animals.

Darwin's specific observations inspired many other investigators,⁽⁹⁾ notably, C.O. Whitman (1898), D. Spalding⁽¹⁰⁾ (1873), C. Lloyd Morgan⁽¹¹⁾ (1894), and P.A. Chadbourne⁽¹²⁾ (1872) could be included. The latter, for example, wondered what sets certain creatures to perform various activities. "Has the bird a gland for the secretion of oil ?" asked he;⁽¹³⁾ his answer was, "She knows instinctively how to press the oil from the gland, and apply it to the feather. Has the rattlesnake the grooved tooth and gland of poison ? He knows without instruction how to make both structure and function most

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- (9) (1) Hess, E.H., "Ethology: An Approach toward the complete Analysis of Behaviour", Readings in Animal Behaviour, (1965), pp.16-17.
(11) Smith, F.V., Explanation of Human Behaviour, op.cit., pp. 158ff.
- (10) (1) "Instinct with original observations on Young Animals", MacMillan Magazine, vol.27, (1873), pp.282-293, republished in B.J.Animal Beh., vol.2, (1954), pp.2-11.
(11) "Flight of Birds not Acquired", Nature, vol.VIII, (1873), p.289.
- (11) An Introduction to Comparative Psychology, London, Walter Scott.
- (12) Lowell Lectures on Instincts in Animals and Men, New York.
- (13) op.cit., p.28.

effective against his enemies. Has the silk-worm the function of secreting the fluid silk ? At the proper time, she winds the cocoon such as she has never seen, as thousands before have done; and thus without instruction, pattern, or experience, forms a safe abode for herself in the period of transformation. Has the hawk talons ? She knows by instinct how to wield them effectively against the helpless quarry". These early and interesting observations can reflect : (1) the direct or indirect influence of Darwin's notion regarding the modifiability of instinct to different conditions; (2) like many other writers of the time, Chadborne expressed deep interest in nature by observing and recording the activities performed by various creatures; (3) apparently, in Darwin's and in Chadborne's impressive observations, William James⁽¹⁴⁾ (1890) found a clue to a variegated number of instincts both in animals and in man who was held to reveal a large array of them.

Spalding's early records of chickens and unlearned flights of birds clearly show that ethological studies are no new activities as Smith (1960a, 1968a) has explained.⁽¹⁵⁾

(14) Principles of Psychology, 2 vols, New York, Holt.

(15) (a) Explanation of Human Behaviour, op.cit., p.158.

(b) Imprinting, MSS, op.cit., pp.4-5.

Spalding's hooded chickens at birth could follow, when uncovered after three days, the insects within a very limited time (about 15 minutes), and were able to adjust themselves when placed upon an uneven plane.⁽¹⁶⁾ Lloyd Morgan's experiments with dogs, and how they try to open the gate of a confining place, led him to conclude that animals are capable of forming certain associations. The significance of the experiment reveals an interest in ethological investigations. Among other early writers who, like Darwin, ascribed innate powers to animal behaviour, was C.O. Whitman. He is referred to by Smith⁽¹⁷⁾ (1960a, 1968a) and quoted by E.H. Hess⁽¹⁸⁾ (1965) as saying, "Instincts and organs are to be studied from the common viewpoint of phyletic descent". Whitman was of the opinion that "as the genesis of organs takes its departure from the elementary structure of protoplasm, so does the genesis of instinct proceed from the fundamental properties of protoplasm".

(16) See also: Smith, F.V., op.cit., p.152.

(17) (1) Explanation of Human Behaviour, op.cit., pp.158, 159.

(11) Imprinting, MS.

(18) In : Readings in Animal Behaviour, op.cit., p.15.

To him both "primordial organs and instincts are alike, few in number and generally persistent".⁽¹⁹⁾ Whitman's early views as well as other observations made later^yly by researchers such as Gerald McClearn⁽²⁰⁾ (1965), V.G. Dethier and Eliot Stellar⁽²¹⁾ (1965), Smith⁽²²⁾ (1968a), add support to McDougall's notion of instinct, namely, (1) it is inherited, (2) it is characteristic of the species, (3) instincts are prime movers of behaviour, (4) instinct is not rigid; it is flexible and characterised by adaptability to changing conditions. Consequently, this would imply that (a) behaviour is genetically inherited; (b) it is internally motivated; (c) it is internally co-ordinated.

Both Smith⁽²³⁾ (1960a, 1968a) and Hess⁽²⁴⁾ (1965) have reported that similar ethological studies to those mentioned

(19) ibid, p.15.

(20) "The Inheritance of Behaviour", Readings in Animal Behaviour, op.cit., pp.73-95.

(21) Animal Behaviour : Its Evolutionary and Neurological Basis, 2nd ed. Prentice-Hall, Modern Biology Series, p.69.

(22) Imprinting., MS., op.cit.

(23) (i) Explanation of Human Behaviour, op.cit., pp. 159, 170.

(ii) Imprinting, MS., op.cit.

(24) In : Readings in Animal Behaviour, op.cit., p.16.

above, were carried out by Oskar Heinroth (1910) who, through observations and experimentation on geese, could introduce empirical evidence to the effect that "the concept of homology" was applicable as much to movements as to "morphological" patterns. Such studies clearly indicate one important fact, that the interpretation of instinctive behaviour is now seriously considered by ethologists as well as psychologists. It may well be thought that ethologists concentrate on observable performances of behaviour without giving enough consideration to the processes of learning; it may as well be believed that psychologists tend to delve for the real motives of learning to the neglect of objective facts. Such a dichotomy does not exist in reality; both areas of research are complementary. The whole issue, however, is a matter of emphasis and a question of major interest. Both ethologists and psychologists are interested to know that learning abilities in animals are intimately associated with the "general curiosity" that those animals show about their environment; and curiosity is one of the main instincts in McDougall's scheme. Learning therefore, which is of paramount importance, is not discarded in the ethologists' investigations, but their primary aim is to consider "behaviours that are normally performed by animals", as Hess (1963) has stated, "because it is their philosophy that the basic material already

present in an animal must be perfectly known before changes in this substratum as a result of learning can be studied".⁽²⁵⁾

Answering a question, "How does an animal's behaviour become so well fitted to its normal environment ?", Aubrey Manning⁽²⁶⁾ (1967) has suggested that this can be done (a) by means of instinctive response which is inherited structure as a part of the nervous system, (b) through the animal's ability of utilizing experience so that it can modify its performances. In Manning's specific words, "Instinctive behaviour evolves gradually as do structural features, and natural selection modifies it to fit the environment in the best way". Such an evolvement reflects what Manning has called "species memory" which descends from one generation to another. Therefore instinct and learning can "ensure adaptive behaviour" by means of inheritance and experience, or to use Manning's own statement : "The former by selection operating during the history of a species, the latter during the history of an individual".⁽²⁷⁾ Manning's views are a clear reflection

(25) "Ethology: An Approach toward the complete Analysis of Behaviour", New Directions in Psychology, New York, Holt, p. 160.

(26) An Introduction to Animal Behaviour, London, Edward Arnold, Chapter 2, "Instinct and Learning" ; see also : Hinde, R.A., "Some Recent Trends in Ethology", Psychology: A Study of Science, vol.2, (1959), ed. by S. Koch., op.cit., p.564.

(27) An Introduction to Animal Behaviour, op.cit., pp. 16-17.

(1) of Darwin's principle of natural selection, (2) of McDougall's notion about instinct as a concrete unit of mental structure, (3) of an emphasis on the inheritance of instinct in the Mendelian sense.

Yet it is quite obvious that the individual's evolutionary history is actually inseparable from that of the species as a whole; and any intended dichotomy such as that attempted above by Manning, must be considered as superficial which in reality has nothing to do with the fundamentality of the subject. Apparently Manning has realised this, so he admitted that it is "unrealistic".⁽²⁸⁾ The general position is meant to emphasise instinct which provides both man and the animals with "a series of adaptive responses";⁽²⁹⁾ this can be regarded of considerable advantage for the individual, both human and brutes. It can be said that McDougall's approach of motivation attracted in fact many notable psychologists such as E.C.Tolman, G.W.Allport, K.Lewin and others.⁽³⁰⁾ These people clearly acknowledged McDougall's effect on the trend of Psychology today. The stress McDougall placed upon the goal-directedness of behaviour aroused,

(28) ibid, p.17.

(29) ibid, p.17.

(30) Such as, for example, G.Murphy, H.A.Murray.

for example, Tolman's⁽³¹⁾ (1932, 1948) interest in the process in which active motives govern performance. Woodworth's⁽³²⁾ (1937) interest in "Situation-and-goal Set", and it attracted Lewin's⁽³³⁾ (1951) attention to conflict situations and other motivational problems.

It is of utmost importance to note that most of the activities performed by insects and other creatures ought to be understood as goal-oriented, governed by perceptual processes⁽³⁴⁾ which are, in point of fact, clearly emphasised by McDougall throughout, and indicated in his classical definition of instinct.

(31) (1) (1932) Purposive Behaviour in Men and Animals, op.cit.

(11) (1948) "Cognitive Maps in Rats and Men" Psych.Rev., vol.55, pp.189-208.

(32) Amer. J. Psychology, vol.50, pp.130-140.

(33) Field Theory in Social Science, New York, Harper.

(34) See:

(1) Hilgard, Ernest, R., "Motivation in Learning Theory" Psychology: A Study of Science, vol.5, (1963), ed. by S.Koch, New York, McGraw-Hill, pp.253-283.

(11) Leeper, R.W., "Learning and the Fields of Perception, Motivation and Personality", Psychology: A Study of Science, vol.5, (1963), op.cit., pp.365-487.

It is both experimentally shown by R.W.G. Hingston,⁽³⁵⁾ (1926-7), K.D. and W.McDougall⁽³⁶⁾ (1931), and pointed out by Manning (1967) on direct observation that insects such as Mason Wasps, Mason Bees, and female digger-wasps, can achieve remarkable performances which are indicative of insight in learning. It was noted that no trial-and-error attempts were manifested by the insects, and new and adaptive responses to the new situations were displayed. These points can best be clarified by one or two examples. Hingston⁽³⁷⁾ (1926-7) closely observed that a mason-wasp builds clay cells in which it afterwards deposits an egg, fills it with caterpillars and closes it. The whole cluster is covered with a thin layer of clay. When a hole is made in the side of the whole pot, the wasp notices it and hurries up to amend it so no one of the caterpillars would be allowed to fall out; every time the caterpillar is put back, the larvae is also stuffed back into the cell and a pellet of clay is inserted into the hole so that the pot should be kept intact and eventually everything inside it is safeguarded. The significance of the entire observations is that the wasp broke off the routine of

(35) "The Mason Wasp (*Eumenes Comica*)", J.Bombay Nat.Hist.Soc., vol.31, pp.241-57, 754-61, 890-6.

(36) "Insight and Foresight in various Animals - Monkey, Raccoon, Rat and Wasp", J.Comp.Psych., vol.XI, pp. 237-273.

(37) J.Bombay Nat.Hist.Soc., vol.31, (1926-7), op.cit.,

making its mud nest. Every time a new movement was done and successfully performed. Similar to Hingston's own experiment, is W. M. and K. McDougall's' one⁽³⁸⁾ (1931) whereby the wasp showed much insight in repairing the holes made in the side or bottom of the nest. The emphasis is that the repair methods are functioning quite differently from those of building the house for the first time.

A more recent example which also precludes stereotyped movements from the performance of insects, and strongly suggests insightful learning is given by Manning⁽³⁹⁾ (1967) about a female digging-wasp which "emerges from her underground pupa in spring. Her parents died the previous summer. She has to mate with a male wasp and then perform a whole series of complex patterns connected with digging out a nest hole, constructing cells within it, hunting and killing prey such as caterpillars, provisioning cells with the prey, laying eggs and finally sealing up the cells. All this must be completed within a few weeks, after which the wasp dies". These creatures, which are far lower in the zoological scale than, say, birds, rats, cats or dogs, have shown what Thorpe (1963) has called an "ideal releaser".⁽⁴⁰⁾

(38) J. Comp. Psych., vol. XI, (1931), op.cit.

(39) op.cit., 17.

(40) Learning and Instinct in Animals, London, Methuen, p.42.

All the insects discussed displayed tremendously instinctive development within a very limited time. For example, in the case of the female digging-wasp, "It is quite inconceivable that she could achieve this tight schedule if she had to learn everything from scratch and by trial-and-error".⁽⁴¹⁾ There is no doubt that it performed the remarkable activities mentioned above largely because it is fully equipped with instinctive endowment which is ready-made by inheritance. The inherited instinctive power is, of course, always being modified and improved by learning and experience; this at least is the case with animals which are higher in the evolutionary scale than the insects.

Ethologically conceived, instinctive behaviour is considered as a complex outcome of a combination of influences, both internal and external, which are "organised in a hierarchy of neural mechanisms with each level of the nervous system controlling specific instinctive acts". This view, which is expressed by Dethier and Stellar⁽⁴²⁾ (1965), is also apparently shared by Joseph Altman⁽⁴³⁾ (1966). The three writers appear to

(41) Manning, A., (1967), op.cit., p.17.

(42) Animal Behaviour : Its Evolutionary and Neurological Basis, op.cit., p.71.

(43) Organic Foundations of Animal Behaviour, New York, Holt, Ch.3, pp. 270ff, and Ch.15, pp. 399ff.

agree that there is a neural mechanism operating within the nervous system and influencing instinctive activities, but their explanations have been set in general terms. For example, they did not specify which instinctive performances are being controlled by particular neural mechanisms within the system. Nor have they indicated which instinctive actions are being controlled more than others. Common sense tells us that not all instinctive acts occur on one and the same level of urgency or power. Nevertheless, in their treatment, an inherited basis of behaviour is claimed and instinct is taken as an explanatory concept. The position as a whole, at any rate, seems to be that what McClearn (1965) has called "animal behavioural genetics"⁽⁴⁴⁾ has now become an established discipline with a broad base so that it can account for "a wide variety of behaviours and in diverse animals species".⁽⁴⁵⁾ The general tendency, however, as represented by the work of many writers and experimenters such as W.H.Thorpe and O.L.Zanguill (1963),⁽⁴⁶⁾ R.A.Hinde and N.Tinbergen (1965),⁽⁴⁷⁾ William Etkin (1964),⁽⁴⁸⁾

(44) op.cit., p.89.

(45) op.cit., p.89.

(46) Current Problems in Animal Behaviour, Cambridge Univ.Press, pp.91ff.

(47) "The Comparative Study of Species - Specific Behaviour", Readings in Animal Behaviour, op.cit., pp.58-67.

(48) "The Ethological Concept of Instinct" in Social Behaviour and Organisation Among Vertebrates, ed. by William Etkin, Univ.of Chicago Press, pp.170-205.

F.V.Smith⁽⁴⁹⁾ (1960a, 1968a) and others, appears to support McClearn's judgement that, "the foundation of behavioural genetics is now sufficiently stable to permit the future course of research to be more detailed and refined in explorations of the dynamics of genetic determination of behaviour".⁽⁵⁰⁾ The crucial question is now, how much supporting evidence can be found in such studies for McDougall's version of instinct.

2. Instinct Defined.

William McDougall defined instinct as "an inherited or innate psycho-physical disposition which determines its possessor to perceive, and to pay attention to objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object and to act in regard to it in a particular manner, or, at least, to experience

(49) (1) Explanation of Human Behaviour, op.cit., pp.158-178.

(11) Imprinting, MS, op.cit.

(50) "The Inheritance of Behaviour", in : Readings in Animal Behaviour, op.cit., p.89.

an impulse to such actions".⁽⁵¹⁾ This definition, which is comprehensive, implies two main, yet inseparable aspects: (a) a biological aspect, and (b) a psychological one. Physiologically regarded, an instinct, which is conducive to the preservation of the species, is an inborn organisation of the nervous system determining the behaviour of the living organism. So, biologically speaking, an instinct may be considered as "a product of evolution"⁽⁵²⁾ which secures useful ends beneficial to the individual as well as to the species. As a factor determining the psychical life of the organism, instinct, in fact, is a perceptual power or skill whose nature can be inferred from the kind of behaviour which is often accompanied by an emotional experience. It is now almost established⁽⁵³⁾ that learning abilities in animals are closely related to the perceptual endowments, especially the visual ones. McDougall therefore seemed to have been alive to the fact of

(51) An Introduction to Social Psychology, London, Methuen, 25th ed., (1943), p.25 ; 1st published in 1908.

(52) (1) Hobhouse, L.T., Mind in Evolution, London, MacMillan, (1901). p.47.

See also :

(11) Pillsbury, W.B., The Essentials of Psychology, revised.ed., New York, MacMillan, (1922), pp.270-272.

(111) Drever, James (Snr), Instinct in Man, (1922), op.cit., p.81.

(1v) Coghill, G.E., "The Genetic Interrelation of Instinctive Behaviour and Reflexes", Psych.Rev., vol.37, (1930), pp.264-266.

(v) Wheeler, R. Holder, The Laws of Human Nature, London, Nisbet and Comp., (1931), pp. 144ff.

(vi) Burt, Cyril., "Is the Doctrine of Instincts Dead ?" Symp., B.J.Ed.Psych., vol.XI, part 3, (1941), p.157.

(53) Thorpe, W.H., "Ethology as a New Branch of Biology", Readings in Animal Behaviour, op.cit., pp. 45-46.

defining psychology in terms of instinctive behaviour, yet he was "more inclusive than what is meant by the American School", as K. Koffka⁽⁵⁴⁾ (1935) judged. Koffka made it abundantly clear that he was "in full agreement with McDougall" concerning the operation of an instinctual system which was appropriately carried out and described by Tolman⁽⁵⁵⁾ in behaviouristic terms. Still further, Koffka admitted that McDougall's theory of the conceptual power of instinct was published long before "Gestalt Psychology existed".⁽⁵⁶⁾ The Gestaltists' position as a whole appears to be based on the outlook that in the perceptual process there is an innate tendency to visualise things as units (Smith⁽⁵⁷⁾ : 1941,1960a). W.Kohler's⁽⁵⁸⁾ (1921) Chimpanzee, for instance, realized, both perceptually and geographically, the relationship between the sticks and the banana which he earnestly desired to reach. Studies conducted by

(54) Principles of Gestalt Psychology, London, Kegan Paul, p.25.

(55) ibid, pp. 401-403.

(56) ibid, pp. 403, 404-6.

(57) (1) (1941) "The Interpretation of the Theory of Gestalt", The Australian J. of Psychology and Philosophy, vol.XIX, No.3, pp. 193-215.

(11) Explanation of Human Behaviour, op.cit., Ch.IX, "The Gestalt Approach".

(58) The Mentality of Apes, London.

psychologists, such as, for example, Hebb⁽⁵⁹⁾ (1937, 1949), Smith⁽⁶⁰⁾ (1960b, 1968a) and others, show that there exists in animals and men an inherited tendency to organise perception into wholes. In Smith's experiments, for example, the chicks are inherently endowed to discriminate between up and down and to perceive spatial aspects such as angles and heights. In this, there is a clear indication of the existence of an innate preference for patterns; taking into account the varying degrees of complexity, it can be said that animals and man are innately equipped with perceptual powers implicated in instincts as worked out by McDougall on hormonal bases.

In his differentiation between the cognitive and the conative aspects, McDougall was trying to stress the perceptual aspects of instincts; so that I.T. Diamond and K.L. Chow (1962) could write that "the perceptual problem in instinctive behaviour

(59) (1) (1937) (a) "The Innate Organisation of visual activity. I. Perception of figures by rats reared in Darkness", J.Genet.Psych., vol.51, pp. 101-126.

(b) "The Innate Organisation of visual activity. II. Transfer of response in the discrimination of brightness and size by rats reared in total darkness", J. Comp. Psych., vol. 24, pp. 277-99.

(11) (1949) The Organisation of Behaviour, op.cit.,

(60) (1) "Towards Definition of the Stimulus Situation for the Approach Response in the Domestic Chick", Anim.Beh., vol.8, op.cit., pp. 197-200.

(11) Imprinting, MS., op.cit.,

was emphasised by McDougall's distinction between cognitive and conative dispositions".⁽⁶¹⁾ However, "the heuristic value" of this separation was emphasised by an example that McDougall gave, and reported by Diamond and Chow,⁽⁶²⁾ of how baby lambs may follow any moving object, a process which has now its extension and influence on the topic of imprinting. The word "imprinting", with which Smith⁽⁶³⁾ (1968a) has much concerned himself both historically in tracing it back to Aristotle upward to Heinroth and Konrad Lorenz, and experimentally in his own demonstrations with lambs and chicks, is considered particularly a process of learning. McDougall appears to have been aware of its importance for the learning tendency. In fact, McDougall was mostly concerned to bring home the over-riding factor of instinct or the innate endowment which underpins the whole concept of imprinting especially and learning generally. Smith's⁽⁶⁴⁾ (1965, 1968a), which are

(61) "The Place of Learning in Comparative Psychology", in : Psychology : A Study of Science., ed. by Koch, S., vol.4, New York, McGraw-Hill, p.162, see also, pp. 164, 170.

(62) ibid, pp. 164, 170.

(63) Imprinting, MS, op.cit., pp. 3-4, 7-9, 10-13, 24, 29.

(64) (1) (1965), "Instinct and Learning in the Attachment of Lamb and Ewe", Animal Beh., vol.13, pp. 84ff.

(11) (1968a), Imprinting, MS., op.cit.

discussed hereafter, and others⁽⁶⁵⁾ experiments tend to support what McDougall was trying to prove. It is interesting, however, to point out here that the data resulting from such studies indicate that (1) there is a common mechanism, an instinctive association of internal sensorial processes which permeates the whole process of perception in imprinting. (2) There is a gradual development of maturation of an instinct during the individual's life. (3) Imprinting is regarded as a tendency to learn and learning is an inextricable part of behaviour. (4) The process of imprinting, which is a very rapid form of learning, adds to the proof of evolutionary continuity.

In an interesting paper based upon close observations about perceptual powers of instinct in young lambs and in ewes, Smith⁽⁶⁶⁾ (1965) has formulated the following hypothesis :

1. "The ewe, unless disturbed, tends to remain in that area of ground upon which fluid has been discharged from the vagina. The chief cues appear to be olfactory. This restriction of movement enhances the probability of the ewe finding the lambs when they are dropped".

(65) See: Thorpe, W.H.,

(1) "Ethology as a new Branch of Biology", Readings in Animal Behaviour, op.cit., pp. 31-49.

(11) Learning and Instinct in Animals, op.cit., pp. 239.

(66) "Instinct and Learning in the Attachment of Lamb and Ewe", Animal Behaviour, vol.13, pp. 84-86.

2. "The licking of the lamb with accompanying low-pitched 'maa-ing' by the ewe would appear to be instinctive. The consequences are that the ewe learns the odour of the lamb and that the lamb has an opportunity of learning the basic vocal characteristics of the ewe. Whether or not both processes should be classified as 'imprinting' in the sense of an irrevocable attachment to a stimulus experienced during an especially sensitive period, is a feature which could be further investigated and so too, the ewe's attachment to the feeble bleatings of her lambs which, on the evidence advanced, she can distinguish from those of other lambs.

The chemical analysis of the amniotic fluids associated with different lambs to determine if and in what way they differ would appear to be crucial".

3. "The placing of the head under any convenient projecting surface would appear to be an instinctive act by the lamb. The eventual finding of the teat is sometimes aided by the ewe and is probably assisted by olfactory cues for the lamb. Once the lamb has been suckled, repeated approaches to the teat could be explained by reference to reinforced learning. An element of reinforcement in the process of attachment could arise from the fact that the process of suckling is satisfying to the ewe". (67)

(67) Animal Behaviour, vol.13, (1965), op.cit., pp. 85-86.

Smith's hypothesis authenticates the tripartite division of instinct into knowing, emotion and purposive action, being exercised by the ewe and the lamb. In the whole paper, however, the innate ability of perception is stressed. The broad basis is provided by instinct which is inherent in the discussed animals' constitution; yet the environmental conditions have not been excluded or minimised in the whole process. For example, the "maa-ing" of the individual lamb was learnt by the ewe; when the lamb was taken away, the mother responded even to the lamb's recorded "maa-ing", after she recognised that it was the "maa-ing" of her baby lamb.

The significance of Smith's above paper is that it adds support to McDougall's notion of instinct as "a mental disposition"⁽⁶⁸⁾ and, "a fact of mental structure"⁽⁶⁹⁾ relating to mental life. To McDougall, mental life or experience consisted always in an activity of a subject perceiving an object of certain class. On the subjective side, the activity constantly changes; this change or modification secures an attainment of an end sought after. It is worthy of note that McDougall's definition of instinct in no sense implies that the instinctive action is performed without awareness of the goal towards which it tends. Yet the

(68) An outline of Psychology, London, Methuen, (1923), p.106.

(69) ibid, p.105.

anticipation of the end may be conceived of in different degrees of clarity and it may be realised at different levels of mental life. The behaviour of the lower animals appears to be almost completely determined throughout their lives by instincts modified but little by experience. The lower animals are capable of perceiving and feeling so that they "act in a perfectly definite and invariably manner whenever a given instinct is excited".⁽⁷⁰⁾ According to McDougall's view, an instinctive action may continue to be instinctive even after much experience of its object. The nest-building, for instance, or the migratory flight of birds, "does not cease to be instinctive"⁽⁷¹⁾ after these activities are performed repeatedly. Experience may improve the instinctive action, but it does not replace instinct itself. "The life-history" of an instinct can be gradually traced in the organism's life. An instinct develops and may express itself before it is perfected. Yet this hardly occurs in the insects, merely because they emerge from "the Chrysalis" almost fully developed. McDougall, nevertheless, did admit that in some cases, which he never specified, instinct fades away, or becomes inoperative. Such would be the case, if instinct is not allowed to fulfil its role immediately after the time at which it usually matures.⁽⁷²⁾ Such a

(70) Introduction to Social Psychology, op.cit., p.27.

(71) ibid, p.26.

(72) An outline of Psychology, op.cit., p.111.

few instances appear to have prompted William James (1842-1910) to formulate his "Law of transitoriness", whereby it is stated that, "Many instincts ripen at a certain age and then fade away".⁽⁷³⁾ James too, like McDougall, did not indicate which instincts are meant to vanish after reaching a particular phase.

McDougall's extended use of instinct was perhaps the main cause of criticisms launched by various writers such as Watson (1878-1958), Z.Y. Kuo and others. His ascription of experience and feeling even to the lowest animals made his whole scheme an obvious target for attack and set many people to be sceptical about his entire position. His treatment of the subject, however, allows for and takes into account the various degrees of advance in the organismic evolution; but only in principle and in broad outline, not in any specific detail. Furthermore, his theoretical division of mental functions into three main powers can be regarded as an innovation of his own, which inspired motivational psychology to concentrate on mental structures alone; motivating factors must always be looked for within the behaving individual. In fact, it is instinct, which is a concrete fact of mental structure, that consists of three related parts, namely, an "afferent", a "central" and a motor or "efferent" part. The resultant activities of these divisions are the cognitive, the

(73) Principles of Psychology, op.cit., vol.2, p.398.

affective and the conative features. Yet McDougall himself rectified an error⁽⁷⁴⁾ he made in drawing a line of separation between the second and the third parts. He realised that there was no sufficient reason for regarding the conative part as distinguishable from the emotional aspect. As to the efferent part, he regarded as "a purely neural apparatus, or motor mechanism, through which the instinctive excitement discharges itself".⁽⁷⁵⁾ The interlocked relation of the three parts to the main instincts can be better understood from examining Smith's illustrative diagram⁽⁷⁶⁾ contained in his lengthy chapter on McDougall's system, and it is appended to this study (Appendix I).

Similar definitions of instinct have been attempted by different writers such as Burt⁽⁷⁷⁾ (1941), N.Tinbergen⁽⁷⁸⁾ (1951), and many others. Burt conceived of an instinct as a "complex"

(74) An Introduction to Social Psychology, op.cit., Chapter VIII, p.495.

(75) ibid, pp. 495-6.

(76) Explanation of Human Behaviour, op.cit., pp. 182-183.

(77) "Is the Doctrine of Instinct Dead ?", Symposium, B.J.Ed. Psychology, vol.XI, (1941), p.157.

(78) The Study of Instinct, London, Oxford University Press, p. 112.

disposition inherent in the constitution of any members of the species. The inherited disposition impells the species to perceive, to become excited, to act in a way preservatory to the individual and eventually to the species. Burt himself declared that his definition is based on that of McDougall, since McDougall's use of the word "instinct", "has led to the most prolific and suggestive applications of the notion to human affairs",⁽⁷⁹⁾ in Burt's specific words. X

Considering instinct in its hierarchical levels and different phases, Tinbergen has defined it as "a hierarchically organised nervous mechanism which is susceptible to certain priming, releasing and directing impulses, of internal as well as of external origin, and which responds to these impulses by co-ordinated movements that contribute to the maintenance of the individual and the species". This definition, too, is not different from that of McDougall. In it, the emphasis is laid upon physiological elements, purposive conditions, a distinction between an instinct which is an energy or urge and instinctive behaviour which is descriptive of and a criterion to the nature of instinct. Yet central to McDougall's definition, which Stout described as "the most complete and thoroughgoing",⁽⁸⁰⁾ are these characteristics:

(79) B.J.Ed.Psych., vol.XI, (1941), p.158.

(80) Manual Psychology, op.cit., p. 348.

(1) it embraces the cognitive, the affective, and the conative phases of mental processes. (2) It referred to specific movements. (3) The innate tendencies, both psychological and biological are included. (4) Purposive aspects are indicated. (5) A clear reference is also made to the adaptability of instinct and its modification by experience. The definition, however, may be designated both as sufficient and comprehensive. In McDougall's scheme, to quote Smith⁽⁸¹⁾ (1960), "Instinct is conceived as involving both a mechanism which is capable of functioning appropriately once it has been set in motion by the appropriate key, and as having the necessary motive power to sustain this activity". This is an adequate description of instinct, and it adds much support to McDougall's notion, whose dictum⁽⁸²⁾ is "instinct is everywhere shot through with intelligence", but the question is whether instinct is perfect from the outset and is without its "follies", to use a term from R.W.G. Hingston⁽⁸³⁾ (1928).

(81) Explanation of Human Behaviour, op.cit., p.124.

(82) (i) "Instinct and Intelligence", Symposium, B.J.Psych., vol. III, (1910).

(ii) An Introduction to Social Psychology, op.cit., p.421.

(iii) "Notes on Instinct and Intelligence in Rats and Cats", J.Comp.Psych., vol. VII, (1927), pp. 145-175.

(83) Problems of Instinct and Intelligence, London, Edward Arnold, p. 280, see also : p. 282.

It is difficult to think that instinct is often not infallible and without its own shortcomings; but observations made at different times by various writers such as G.W. and E.G. Peckham⁽⁸⁴⁾ (1905), J.H. Fabre⁽⁸⁵⁾ (1912,1914,1916,1918,1929), Hingston⁽⁸⁶⁾ (1920,1928), W.M.Wheeler⁽⁸⁷⁾ (1928), A.D.Imms⁽⁸⁸⁾ (1947), W.H. Thorpe⁽⁸⁹⁾ (1943, 1965), and others, seem to be in favour of McDougall's position. These writers' views, which are scattered throughout their works, tend to agree that the creatures observed

- (84) Wasps: Social and Solitary, Westminster, Archibald Constable and Co.
- (85) (i) (1912) The Life of the Spider, English trans., London, Hodder and Stoughton.
- (ii) (1914) The Mason Bees, English trans., London, Hodder and Stoughton.
- (iii) (1916) The Hunting Wasps, English trans., London, Hodder and Stoughton.
- (iv) (1918) The Wonders of Instinct, English trans., London, Hodder and Stoughton.
- (v) (1929) Animal Life in Field and Garden, English trans., London, Thornton, Butterworth.
- (86) (i) (1920) A Naturalist in Himalaya, London, H.F. and Co. Witherby.
- (ii) (1928) Problems of Instinct and Intelligence, op.cit.,
- (87) The Social Insects, London, Kegan Paul.
- (88) Social Behaviour in Insects, London, Methuen.
- (89) (i) (1943) "Types of Learning in Insects and other Arthropods" papers I-III, B.J.Psych., vols.XXXIII and XXXIV, (1943-1944).
- (ii) (1965) "Ethology as a Branch of Biology", Readings in Animal Behaviour, op.cit.

show flexibility and utilize rudimentary intelligence. They can :
(1) adapt means to ends; (2) given adequate time, do something novel; (3) in general, learn from experience.

The question now is whether the concept of instinct and its proponents were saved the trouble of being criticised. Polemical strictures, which are sometimes unfounded and unsubstantiated, are every now and again being made against the concept as a whole. Undoubtedly, behind the antagonistic attitudes, there are often real facts hidden or vitiated. Generally, the tendency assumed by the critics is mostly characteristic of denying the existence of instinct en toto. Among the writers, to whom instinct seemed to be an anathema and perhaps wanted to see its discussion "strictly barred",⁽⁹⁰⁾ were J.B.Watson⁽⁹¹⁾ (1919, 1925, 1928),

(90) McDougall, William., "The Use and Abuse of Instinct in Social Psychology", J. Abn. and Social Psych., vol.XVI, Nos. 5 and 6, (1922), p.285.

(91) (1) (1919) Psychology from the Standpoint of a Behaviourist, Philadelphia, Lippincott and Co., 3rd ed., 1929.

(11)(1925) Behaviourism, New York, Norton and Co.

(111) (1928) The Battle of Behaviourism, London, Kegan Paul, another ed., New York, Norton, (1929).

F.H. Allport⁽⁹²⁾ (1924), Knight Dunlap⁽⁹³⁾ (1920, 1925a, 1925b),
Z.Y. Kuo⁽⁹⁴⁾ (1921,1922,1924,1928,1929,1930), and others. The
essence of these writers' views, which are shared by some others⁽⁹⁵⁾

(92) Social Psychology, Boston : Houghton Mifflin and Co., another ed.
Cambridge, Mass.

(93) (i) (1920) "Are There Any Instincts ?" J.Abn.Psych., vol. XIV,
pp. 35-50.

(ii) (1925a) "Instincts and Desires", J.Abn. and Soc. Psych.,
vol. XX, pp. 170ff.

(iii) (1925b) Social Psychology, Baltimore, William and Wilkins;
see also: Dunlap's other three articles in :
Psychologies of 1925, ed. by C. Murchison.

(94) (i) (1921) "Giving up Instincts in Psychology", J. Philos.,
vol. XVIII, pp. 643ff.

(ii) (1922) "How Are Our Instincts Acquired ?" Psych.Rev.,
vol. XXIX, pp. 344ff.

(iii) (1924) "A Psychology Without Heredity", Psych. Rev.,
vol. XXXI, pp. 427ff.

(iv) (1928) "The Fundamental Error of the Concept of Purpose
and the Trial and Error Fallacy", Psych. Rev.,
vol. XXXV, pp. 414ff.

(v) (1929) "The Net Result of the Anti-Heredity Movement in
Psychology", Psych. Rev., vol. XXXVI, pp. 181ff.

(vi) (1930) "The Genesis of the Cat's Response to the Rat",
J. Comp. Psych., vol. XI, pp. 30ff.

(95) See for example:

(i) Vernon, P.E. "Is the Doctrine of Instincts Dead ?"
Symposium, B.J.Ed. Psych., vol. XII, (1942).

(ii) Pear, T.H., "Is the Doctrine of Instincts Dead ?"
Symposium, B.J.Ed. Psych., vol. XII, (1942).

in Britain, is that much behaviour, and particularly adult human behaviour, is acquired by learning, so that there is no need for concocting long lists of instincts, and for F.H. Allport in particular, that even basic instincts or "drives" play a vanishingly small part in the behaviour of adult human beings.

Ironically enough, however, it appears that carefully designed experiments and rigorous observations were carried out by other American investigators, notably, R.M. Yerkes and D. Bloomfield⁽⁹⁶⁾ (1910), K.S. Lashley⁽⁹⁷⁾ (1938), C.P. Stone⁽⁹⁸⁾ (1951), and others. They supported the existence of instinct. Among all American authors, E.C. Tolman, perhaps the most consistent defender of instinct, treated the concept mainly in connection with behavioural structure which will be examined in Chapter VII.

(96) "Do Kittens Instinctively Kill Mice ?" Psych. Bull., vol. VII.

(97) (1) "The Thalamus and Emotion" Psych. Rev., vol. 45, pp. 42ff.

(11) "Experimental Analysis of Instinctive Behaviour" Psych. Rev., vol. 45, pp. 445ff.

(98) "Maturation and Instinctive Functions" in : Comparative Psychology, ed. by Stone, C.P., 3rd ed., New York, Prentice-Hall, pp. 30ff.

The essence of instinctive activity is the liberation and direction of a psycho-physical energy which McDougall called "neurokyme";⁽⁹⁹⁾ he spoke of it as "vicarious usage of nervous energy".⁽¹⁰⁰⁾ His interpretation of the case is that the energy, which is converted from the potential chemical form to some active form within each neurone, must be regarded as not confined to the neurone within which it has been liberated, but as capable of flowing on, passing into and through other neurones, so that each neurone serves, not only as an irritable conductor of excitation imparted to it, but also as a channel through which the specific energy liberated within it, may flow from place to place within the nervous system. This hypothetical description was supplemented by two other hypotheses⁽¹⁰¹⁾ implied by it, namely, the "common reservoir" of freed energy and "inhibition by drainage". On this view, each instinct therefore is regarded as containing a store of potential energy, a source from which, when it is tapped, psycho-physical power wells up in "a great gush to re-enforce and sustain mental and bodily activity".⁽¹⁰²⁾

(99) "The Sources and Directions of Psycho-Physical Energy", Amer. J. of Insanity, vol. 69, (1913), p. 863.

(100) ibid, p. 863.

(101) "The Hypothesis of Inhibition by Drainage" Psych. Rev., vol. 33, No. 5, (1926).

(102) Amer. J. of Insanity, vol. 69, op.cit., p. 866.

Basically, then, McDougall envisaged instinct (1913)⁽¹⁰³⁾ as an energy within the nervous system; but it is held back by "sluice gates". An instinct would release the energy dammed when it is stimulated at the appropriate time. A more complex analogy McDougall used⁽¹⁰⁴⁾ (1923), when he likened instinct to a locked chamber with different locks that are only opened by suitable keys, i.e. stimuli, when need arises. The question still is whether or not there is a uniform key suiting all the different species or that it is rather variable according to every particular situation. The considerable and growing literature, both experimental and observational, indicates the variability of the characteristics of the essential stimulus object and the instinctive behaviour is accordingly variegated and flexible. It cannot be gainsaid that what has been called "the nativist-empiricist controversy"⁽¹⁰⁵⁾ always exists in any discussion on any discipline involving behaviour. Nevertheless, studies made, for example, by H.C. Bingham⁽¹⁰⁶⁾ (1913),

(103) ibid.

(104) An Outline of Psychology, op.cit., pp. 98, 106, 109.

(105) Smith, F.V., Explanation of Human Behaviour, op.cit., p.152.

(106) "Size and Form Perception in the Gallus Domesticus"
J. Anim. Beh., vol. 3, pp. 260-273.

M. Herz⁽¹⁰⁷⁾ (1938), K.S.Lashley and J.T.Russell⁽¹⁰⁸⁾ (1934), Lashley⁽¹⁰⁹⁾ (1938), W.Kohler⁽¹¹⁰⁾ (1950), Smith et al⁽¹¹¹⁾ (1961), Smith⁽¹¹²⁾ (1960, 1968a), point to a principal fact, namely, that there is an innate feature of a general nature underlying the organisation of the perceptual system. In Smith's⁽¹¹³⁾ (1960a) own words, "The fact that the animal reacts to the larger or smaller of the two stimulus objects and not to the one to which it has been trained to react, could suggest that the animal apprehends relationships between objects in the act of perception."

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- (107) See: Ellis, W.D., "A Source Book of Gestalt Psychology", London, Routledge and Kegan Paul, pp. 253-263.
- (108) "The Mechanism of Vision. XI : A Preliminary Test of Innate Organisation", J.Genet.Psychol., vol. 45, pp. 136-143.
- (109) "The Experimental Analysis of Instinctive Behaviour", Psych.Rev., vol. 45, pp. 445-471.
- (110) See: Ellis, W.D., "A Source Book of Gestalt Psychology", London, Routledge and Kegan Paul, pp. 217-227.
- (111) "Properties of the Visual Stimulus for the Approach Response in the Domestic Chick", Anim.Beh., vol.9, op.cit., pp.159-165.
- (112) (1) (1960) "Towards Definition of the Stimulus Situation for the Approach Response in the Domestic Chick", Anim. Beh., vol.8, op.cit., pp.197-199.
- (11) (1968a) Imprinting, MSS, op.cit.,
- (113) Explanation of Human Behaviour, op.cit., pp. 151-2.

The implications of McDougall's analogy mentioned above, appear to have been attractive to Lorenz⁽¹¹⁴⁾ (1950) and Tinbergen⁽¹¹⁵⁾ (1950,1951). Both writers discussed the mechanisms underpinning instinctive reactions, and talked of "the damming up" of certain inborn activity. "The damming up" assumes that there is a physiological mechanism which stops the discharge of any activity unless the organism faces the appropriate situation and stimulation to release this stoppage. This entails that there is a requisite "innate releasing mechanism", or (I.R.M.), for brevity, which is attuned to the right stimulus, and which is unlocked by a particular releaser (key), so that behaviour is allowed to flow to the next lowest level. These lowest levels may in turn form blocks which prevent activity. Even so, there is no wastage of energy at all. This is so, for the simple fact that action will be diverted to activate "appetitive behaviour" which is both directive and purposive. Actually, in McDougall's writings, the words "appetite" and "appetitive" are often encountered (Chapter V above). The essence of his version is that appetite is not to be thought of as distinguishable from instinct. Such a notion has apparently, directly or indirectly, influenced

(114) "The Comparative Method in Studying innate Behaviour Patterns", Symposia of the Society for Experimental Biology, vol. 4, pp. 221-268.

(115) (1) (1950) "The Hierarchical Organisation of nervous mechanisms Underlying Instinctive Behaviour", Symposia of the Society for Experimental Biology, vol.4, op.cit., pp. 305-312.

(ii) The Study of Instinct, Oxford University Press, op.cit.

writers such as, for instance, Wallace Craig⁽¹¹⁶⁾ (1918) and Lorenz⁽¹¹⁷⁾ (1950, 1968). Both wrote of "appetitive behaviour" and "aversive behaviour" as two types of purposive searching. The former kind consists of changeable searching activities which gradually become specific. The latter type is similar to the former, but it goes on until a state of equilibrium is reached. The fundamental difference between Craig's and Lorenz's treatment of appetitive behaviour is this : the former considered appetite or "appetence", as he sometimes called it, a sort of condition or a state of agitation that shows itself externally; whereas Lorenz regarded the appetitive behaviour as truly purposive, self-stimulating and consummatory, particularly in its pursuance of a proper goal. It is flexible and represents the variable phase of an instinctive behavioural sequence; and here, once again, is one of, to quote Thorpe (1963), the "challenging situations which makes the subject of instinct at present so attractive and so stimulating",⁽¹¹⁸⁾

(116) "Appetites and Aversions as Constituents of Instincts",
Biol. Bull., vol. 34, pp. 91-107.

(117) (i) (1950) Symp.Soc.Exp.Biol., vol.4., op.cit., pp. 221-268.

(ii) On Aggression, Methuen, paperback ed., pp. 43, 74.

(118) Learning and Instinct in Animals, op.cit., p. 34.

not only to psychologists, but also to ethologists and physiologists. What Thorpe and Zangwill (1963) simply call "innate mechanism"⁽¹¹⁹⁾ of behaviour, Lorenz and Tinbergen name as "innate releasing mechanisms" or (I.R.M.). The investigations made by Lorenz and Tinbergen are built on behavioural repertory and physiological evidence. Both writers use such phrases as "central nervous impulse flow" and "reaction specific energy". Such expressions are reminiscent of McDougall's hypothesis of liberated energy discussed above. It could be said therefore that their studies are much in line with, and tend to confirm McDougall's view that "the evoking of the instinctive action, the opening of the door of the instinct on perception of its specific object increases the urgency of the appetite".⁽¹²⁰⁾ This means that energy, which is released when necessary, is always latent in instinct. Therefore it is hard to think with R.A. Hinde⁽¹²¹⁾ (1960) that the instinctual power ceases once the goal is achieved. If this is so, the individual "would be incapable to act",⁽¹²²⁾ as McDougall firmly believed. Instincts,

(119) Current Problems in Animal Behaviour, op.cit., p.91.

(120) An outline of Psychology, op.cit., p.98; see also: pp.96, 97, 99ff.

(121) "Energy Models of Motivation", Symp.Soc.Exp.Biol., vol.14, pp.199-213.

(122) An Introduction to Social Psychology, op.cit., p.38.

as W.E. Sargent⁽¹²³⁾ (1965) has put it, "are the stream of man's life energy". Sargent has likened them to "water-jets forcing (their) way through the crust of the earth",⁽¹²⁴⁾ an analogy which, in its essence, is similar to McDougall's analogy of the "lock" and the "key" and the explanation of the "neurokyme".

The position, however, appears to be as Smith⁽¹²⁵⁾ has observed that "There are many features emphasised by the ethologists which are reminiscent of McDougall's earlier writings". Smith seems to have in mind the advanced studies made by Lorenz, Tinbergen, Hinde,⁽¹²⁶⁾ Hinde and Tinbergen (1965)⁽¹²⁷⁾, W. Etkin,⁽¹²⁸⁾ and many others. Indeed, Lorenz and Tinbergen could demonstrate that behavioural events in higher organisms and lower organisms have much in common. They, of course, allowed for the complexity of the acts fulfilled. Comparative study of behaviour can adduce results which are highly satisfactory. Elements which are of a common evolutionary origin⁽¹²⁹⁾ are always accounted for in ethological studies.

(123) Psychology, Teach Yourself ed., p.55.

(124) ibid, p.55.

(125) Explanation of Human Behaviour, op.cit., p.160.

(126) op.cit.,

(127) "The Comparative Study of Species - Specific Behaviour", Readings in Animal Behaviour, op.cit., pp.58-67.

(128) op.cit.,

(129) Hinde, R.A. and Tinbergen, N., "The Comparative Study of Species - Specific Behaviour", Readings in Animal Behaviour, op.cit., p.67.

Comparative methods, when combined with studies of "function and causation" can allow for an enormous progress in this way. So, E.H. Hess⁽¹³⁰⁾ (1965) has stated that ethology, being inspired by Lorenz's and Tinbergen's investigations "began to expand into the neurophysiological bases of behaviour".

Instinctive behaviour, at any rate, is complicated, and there are various elements which constitute its general structure. Lorenz and Tinbergen, for example, have mentioned several such factors as "reflexes", "taxes",* "fixed action patterns" or instinctive movements, "consummatory acts"** as well as appetitive and aversive behaviour. In ethology⁽¹³¹⁾ the instinctive behaviour is distinguished from reflexes at least in two ways:

(1) The instinctive behaviour often depends upon special conditions related to the organism's internal state. (2) Instinctive behaviour

(130) "Ethology : An Approach toward the complete Analysis of Behaviour", Readings in Animal Behaviour, op.cit., p.17.

* Taxes are directed locomotory reactions of motile organisms.

** The consummatory act is made in response to one or more releasers. Its components are the taxis and the fixed action patterns.

(131) (1) Dethier, V.G. and Eliot Stellar, Animal Behaviour : Its Evolutionary and Neurological Basis, (1965), op.cit., p.71.

(1.1) Hebb, D.O., A Textbook of Psychology, Philadelphia, Saunders Co., 2nd ed., (1966), p.140.

is always regarded as a means-end oriented activity; this, anyway, does not rule out external influences by which it is sometimes triggered. The reproductive behaviour of the male stickleback⁽¹³²⁾ fish, for example, is a combination of various instinctive activities such as migration, fighting, nesting, mating and parental acts, many demonstrably instigated by specific stimuli.

Nor have ethologists escaped criticism.

D.S. Lehrman⁽¹³³⁾ (1953) criticised the ethological movement, particularly Lorenz's approach. Lehrman admitted that Lorenz's theory of innately instinctive behaviour has been extensive in its impact largely because : (a) of its "diagrammatical simplicity", (b) of its use of "neurophysiological concepts", (c) of its dealing with the "behaviour patterns drawn from the life cycle of animals discussed".⁽¹³⁴⁾ Lorenz's view is that energy specific for the instinctive activity can accumulate continuously in the neural centre specific for that activity. This means that the organism does not remain passive, and that purposive behaviour is being directed toward the performance of the instinctive functions. Yet

(132) Tinbergen, N., The Study of Instinct, op.cit., pp.173, 192; cf. Thorpe, W.H., "Ethology as a New Branch of Biology" in Readings in Animal Behaviour, (1965), op.cit., p.48.

(133) "A Critique of Konrad Lorenz's Theory of Instinctive Behaviour", Quart. Rev. of Biol., vol.28, pp.337-363.

(134) ibid, p. 337.

Lehrman indicated that he was not hospitable to Lorenz's position. Without specifying how, he thought that Lorenz's theory is "rigidly canalized" and has "serious flaws".⁽¹³⁵⁾ After this, he attacked the theory of instinct in general. "Any instinct theory", he wrote, "which regards 'instinct' as immanent, performed, inherited, or based on specific neural structures, is bound to divert the investigation of behaviour development from fundamental analysis and the study of developmental problems".⁽¹³⁶⁾

J.S. Kennedy⁽¹³⁷⁾ (1954), a British Zoologist, like Lehrman, has attacked ethology and its enthusiastic proponents, especially Lorenz and Tinbergen. He criticised Lorenz's distinction between "endogenous" and "reflexive neurophysiological" processes, and described such a distinction as subjective and indefensible. He thinks the ethologists are harming their position "because of their tendency to force into the portmanteau of instinct as much of the variation of behaviour as they possibly can".⁽¹³⁸⁾ Kennedy then attacked Tinbergen's notion implied in the Study of Instinct (1951), namely, that the ethologist must study instinct in the first place, and learning must be considered later.

(135) ibid, p. 358.

(136) ibid, p. 359.

(137) "Is Modern Ethology Objective ?", B.J. Animal Beh., vol.2, pp. 12-19.

(138) ibid, p. 15.

Despite such strictures, which can be expected in any discipline, the ethological studies have undoubtedly dissipated much confusion which was associated with the perceptual phase of instinct. The close observations and the systematic experimentations have shown that animal behaviour is expressive of the discharge of internal energy which is serviceable to the individual and its species. The general picture presented by such investigations is that instinctive activities function in accordance with field factors typified by natural needs, both physiological and psychical. It would be difficult to circumscribe all "the excesses of the purposive interpretation" connected with instinct, to quote Smith⁽¹³⁹⁾ (1960a); this is so because "the literature is vast, heterogeneous and growing at such a rapid rate that at any one point of time it would be impossible to give an adequate account unless an entire volume were devoted⁽¹⁴⁰⁾ to it" (Smith, 1960a).

However, McDougall's position may be summed up in Smith's own statement that, "It is clear from most of McDougall's writings that he had conceived of each instinct as associated with a specific 'neurological correlate' and the implied image is one of specific connection between specific neural organisations".⁽¹⁴¹⁾

(139) Explanation of Human Behaviour, op.cit., p.159.

(140) ibid., p.159.

(141) ibid., p.133.

This may mean that from the beginning, McDougall discerned that there were a number of relatively distinct instincts, each one mediated by a separate "neurological correlate". Yet it is of paramount importance to realize that the various instincts are in no way independent of one another; and McDougall in no sense meant this despite the fact that he discussed them separately. He apparently did so to clarify the nature of the function of each one. Instinctive behaviour is actually rhythmic, so it cannot be ascribed to any particular instinct, and it is very much erroneous to think that instincts function independently of each other. The question, however, is the nature of an instinctive act. The combined efforts⁽¹⁴²⁾ of ethologists and neurophysiologists have resulted in pointing out certain levels of instinctive behaviour, so that the hypothesis of the mechanism of such an instinctive behaviour now embraces "the reality better than any theory thus far advanced"⁽¹⁴³⁾ (Tinbergen, 1951). The various levels enumerated are : (1) The level of the individual motor unit; (2) all the motor units belonging to one muscle; (3) co-ordinated functions of muscular complexes relating to a single joint; (4) co-ordinated

(142) (1) Smith, F.V., Explanation of Human Behaviour, op.cit., pp. 132-147.

(11) —————, Imprinting, MSS., op.cit., pp. 3-4, 7-9, 12-13, 24, 29.

(143) The Study of Instinct, op.cit., p.107; Cf. Tinbergen's paper: "The Shell Menace" in Readings in Animal Behaviour, (1965), op.cit., pp. 532-540.

movements of a limb as a whole; (5) co-ordinated movements of a number of locomotor organs resulting in locomotion; (6) the highest level common to all animals, the movements of the animals as a whole.⁽¹⁴⁴⁾ Such a hierarchical organisation, interesting though it is, would raise a question that instinctive activity is rather variable in connection with the goal sought after. In point of fact, instinctive behaviour is so adaptive and purposive in character where the methods and movements of the individual are directive and they change according to circumstances, while the goal is constant. The variability in instinctive functions is entirely dependent on the level concerned. The lower levels, for instance, activate the simple and motor movements, whereas the higher levels give rise to purposive activities which are highly adaptive and directive in seeking the end desired.

As a psycho-physical disposition, instinct seems to imply what H.W. Nissen (1953) calls "the sensitizing effects of neural stimulation",⁽¹⁴⁵⁾ a phrase which clearly indicates the localization of instinctive function within the nervous system.

(144) (1) Weiss, P., "Self-differentiation of the Basic patterns of Co-ordination", Comp.Psych., Mongr., vol.17, (1941), pp. 1-96. p. 23.

(11) Tinbergen, N., The Study of Instinct, op.cit., p.122.

(111)Thorpe, W.H., Learning and Instinct in Animals, op.cit., pp. 30-32.

(145) "Instinct as seen by a Psychologist" in : W.C.Allec, W.H.Nissen, and M.F.Nimkoff, "A Re-Examination of the concept of Instinct", Psych.Rev., vol.60, pp. 287-297.

Consequently this would entail that, (1) the behaviour displayed by the individual is hierarchical in nature, i.e., it transits from higher levels downward to the lower ones. (2) Each one of the hierarchical levels, within the nervous system, has certain integrative functions. (3) The hierarchical centres of the system of these levels are neurophysiological in character. (4) The neurophysiological relationship underpinning instincts would necessitate that they are mediated by "neurological correlates", which would eventually mean that the instinctively purposive activity is intimately related to "a common neurophysiological mechanism",⁽¹⁴⁶⁾ "a common taxis mechanism".⁽¹⁴⁷⁾ The question now is whether or not there is such a system of centres, and if it exists, where it is to be located. This is to be now considered.

McDougall already⁽¹⁴⁸⁾ (1932) localized instincts or "propensities" in the "optic thalamus", the mid-brain. So interest in localising the source of energy appears to have been considered for quite a long time now, and, to cite Smith, "the systematic experimental study of innate patterns of behaviour has steadily

(146) Tinbergen, N., The Study of Instinct., op.cit., p.112.

(147) Thorpe, H.W., Learning and Instinct in Animals, op.cit., p.282.

(148) The Energies of Men, London, Methuen, p.321.

increased".⁽¹⁴⁹⁾ According to Smith⁽¹⁵⁰⁾ (1960a, 1968a),
E.H. Hess⁽¹⁵¹⁾ (1965,1967), Von Holst and Von Saint Paul (1967),⁽¹⁵²⁾
this increase started about 1930; from this time onwards, E. Von
Holst and W.R. Hess (1930's),⁽¹⁵³⁾ W.R. Hess and M. Brügger (1943,
1944),⁽¹⁵⁴⁾ M. Brügger (1943),⁽¹⁵⁵⁾ could demonstrate existence of
neurological organisation embodied in different behavioural patterns.
This was achieved by stimulating a particular brain region, the
hypothalamus of birds and cats with very fine electrodes. Elicitation
of the cat's behaviour, for example, showed that not only did it

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- (149) Explanation of Human Behaviour, op.cit., p.159, see also: by
the same author: Imprinting, MSS, op.cit.
- (150) (1) Explanation of Human Behaviour, op.cit., p.159.
(11) Imprinting, MSS, op.cit., pp. 10, 12-15.
- (151) (1) Readings in Animal Behaviour, op.cit., p.17.
(11) "Imprinting in Animals" in: Psychobiology, op.cit.,
pp. 107-112.
- (152) "Electrically Controlled Behaviour" in Psychobiology, op.cit.,
pp. 56ff, 57ff.
- (153) (1) Smith, F.V., Imprinting, MSS, op.cit.
(11) V. Holst and V.S. Paul, op.cit.
- (154) Smith, F.V., Imprinting, op.cit., p.10.
- (155) (1) Smith, F.V., Explanation of Human Behaviour, op.cit., p.135.
(11) Smith, F.V., Imprinting, MSS, op.cit.
(111) Tinbergen, N., The Study of Instinct, op.cit., p.108.

sleep, but also it looked for a certain place to sleep. "The behaviour", writes Smith⁽¹⁵⁶⁾ (1968a), "appeared to be normal in the sense that it was co-ordinated and apparently purposeful".

Now further support for the existence of the hierarchical centres of behavioural patterns comes from various sources of which Smith (1950a,1968a) has made an extensive study. He reports, for example, that B. Anderson and S.M. McCann (1955) could show that if the hypothalamus of goats is stimulated electrically or by applying "saline solution", the goats could "be induced to drink" excessive water, though they were already "satiated". Another example, which may well add support to McDougall's position, can be found in A.E.Fisher's⁽¹⁵⁷⁾ (1964) studies. Experimenting on rats, Fisher's purport was to examine their "thirst-drive" by chemically stimulating the hypothalamus and adjoining regions of the brain. The conclusion reached was that the chemical solution applied to any of the explored areas of the brain would stimulate the entire thirst-drive system. Apparently, Fisher was well on the way to isolate a particular circuit which, when activated, could suppress other drives and thus ensure that the

(156) Imprinting, op.cit., p.10.

(157) "Chemical Stimulation of the Brain", Psychobiology, op.cit., p.73.

animal's needs for water were met. The significance of these and other earlier studies such as those done by W.B.Cannon and S.W. Britton (1925),⁽¹⁵⁸⁾ P. Bard (1934 ,⁽¹⁵⁹⁾(1940), P.Bard and V.B. Mountcastle (1947),⁽¹⁶⁰⁾ indicate certain points of particular importance.

(1) The descriptions offered point to the fact that there are various levels, i.e., besides the hypothalamus, there are the cortex, which functions both as excitatory and inhibitory, and the thalamus proper.

(2) Systems, which are subordinate to the hypothalamic centre, in turn control other centres lower in the hierarchy.

(3) By systematically stimulating the hypothalamic areas certain behavioural patterns, such as sleep, eating or fighting, can be elicited.

(158) "Studies on the Conditions of Activity in Ductless Glands", XV, Pseudoaffective Medulliadrenal Secretions", Amer.J.Physiol., vol. 72, pp. 283-294.

(159) "On Emotional Expression after Decortication with some Remarks on Certain Theoretical Views", Psych.Rev., vol.41, I, pp.309-329, II, pp. 424-449.

(160) "Some Forebrain Mechanisms involved in the Expression of Rage with Special Reference to Suppression of Angry Behaviour", Res. Publ. Ass. Nerv. Ment. Dis., vol.27, pp. 362-404.

(4) The behaviour instigated was mostly co-ordinated.

(5) These studies have discovered the anatomical basis of the centres which control the instinctive activities generally. So, to quote Smith⁽¹⁶¹⁾ (1960a), "It is thus possible, to conceive of the several sources of stimulation operating jointly, and of a degree of mutual assistance or even of compensation". The whole tendency, however, has been to stress the great advantage of sub-thalamic centres, and still it is of greatest importance to realise that, to cite Smith⁽¹⁶²⁾ (1960a), "The hypothalamus has a wealth of possible forms of discharge to other parts of the brain and being a richly vascularised area can quickly reflect any changes in the chemical and physical properties of the blood".

The afore-going studies, however, can serve various x purposes, significant among which can be enumerated: (a) they tend to replicate McDougall's version of instinct as a psycho-physical factor determining the behaviour of the living organism. (b) They serve to revive interest in the concept of instinct as a biological unit in the Mendelian sense. (c) They offer further ethological evidence which is congruent with the evolutionary continuity; the ethological evidence in turn adds support to the

(161) Explanation of Human Behaviour, op.cit., p.141.

(162) ibid, p. 140.

existence of instinct as a key factor in any purposive activity.

(d) They tend to consolidate the notion that the co-ordinated dynamic acts are mediated by centres in a particular place in the central nervous system which now generally appears to be called

"the instinct centre".⁽¹⁶³⁾ (e) The instincts are mediated in

McDougall's terms, by "specific neurological correlates".

3. Instincts in Relation to Emotions.

Like instinct, the concept of emotion is sometimes confusedly used and at times loosely discussed. It has given rise to a number of philosophical and psychological problems. The most important of them concerns the function of emotions and the criteria for their validity. The traditional theory, for example, held by writers such as Dugald Stewart⁽¹⁶⁴⁾ (1854), Thomas Reid⁽¹⁶⁵⁾ (1785, 1843), Adam Smith⁽¹⁶⁶⁾ (1759), Alexander Sutherland⁽¹⁶⁷⁾ (1898), Herbert

(163) See for example: Etkin, William., "The Ethological Concept of Instinct", Ch.7, p.171, in Social Behaviour and Organisation Among Vertebrates, ed. by: Etkin, William, Univ. of Chicago Press, (1964).

(164) Collected Works, ed. by Sir William Hamilton, Edinburgh, vol.II, pp. 12-36.

(165) (i) (1785) Essays on the Intellectual Powers of Man, op.cit.,
(ii) (1843) Essays on the Active Powers of the Human Mind, op.cit.,

(166) Theory of Moral Sentiments, Reprinted in British Moralists, vol.I, ed. by L.A.Selby-Bigge, (1790).

(167) The Origin and Growth of the Moral Instinct, 2 vols., London, Longmans, vol.II, Ch.XXII.

Spencer⁽¹⁶⁸⁾ (1855), and to an extent, Th. Ribot⁽¹⁶⁹⁾ (1897), regarded emotions as "feelings" or "passions". However, among all discussions of emotions, McDougall's own treatment of the subject is considered (J. Drever : 1932;⁽¹⁷⁰⁾ Erol Bedford : 1957;⁽¹⁷¹⁾ R.S. Peters and C.A. Mace : (1962)⁽¹⁷²⁾ as more commendable. His general conception of an emotion is reminiscent of Darwin's view expressed in Expression of Emotions in Man and Animals (1872), namely, that the emotions arise involuntarily. Emotional activity can be studied in several ways : physiologically, introspectively, behaviouristically; but McDougall could remedy a long-standing error whereby emotions were regarded as aspects of experience only, while the outward activity which commonly accompanies them was considered as a process having no definable relation to the emotional experience. McDougall's correction is identified in

(168) The Principles of Psychology, part IV, Ch.viii.

(169) The Psychology of Emotions, London, Walter Scott, pp. 93-94.

(170) "The Nature of Emotion", J. Abnor. and Social Psych., vol. XXVII, No.3, pp. 298ff.

(171) "Emotions" Proc. Aristot. Society, vol. LVII, pp. 281ff.

(172) "Emotions and the category of Passivity", Proc. Aristot. Society, vol. LXII, pp. 123ff., cf.
H.E. and M.C. Jones, "Genetic Studies of Emotions", Psych. Bull., vol. 27, No.1, (1930), pp. 40ff.

treating the two aspects of any primary emotional or instinctive excitement as but one and the same "complete series of phenomena".⁽¹⁷³⁾ In McDougall's system, an emotion is conceived of as an expression indicative of an instinct; and his definition of instinct was in fact in terms of definite emotions.

In addition to "primary" emotions, McDougall spoke of "complex feelings" which he called "derived emotions". It was in regard to such and further terminology that there had been lively controversy between him and Alexander F. Shand; and this may now be worth consideration.

In 1896,⁽¹⁷⁴⁾ A.F. Shand set out a position which might be considered as the basis for his theory of sentiments. In those views, which he later advanced in book-form,⁽¹⁷⁵⁾ he endeavoured to indicate by amplification the evolvement of feelings, emotions and sentiments. Some of the ideas he enunciated aroused crucial differences of opinion between him and McDougall. Before pointing out what seems to separate him from McDougall, a consideration must now be given to his arguments implemented in that earlier article.

(173) "The Nature of Emotion", J. Abnor. and Social Psychol., vol. XXVIII, (1933), pp. 246ff.

(174) "Character and Emotions" MIND, N.S., vol. V, No. 18, (1896).

(175) The Foundations of Character, London, MacMillan, (1914), 2nd ed., 1920.

Shand's article began with the consideration of feelings which he classified according to the degree and character of their organisation. These may be summarised as : (1) The unorganised and isolated, or what he called "bodily" feelings, such as pain and pleasure. These may also be named as objectless feelings, since they have no object of their own. (2) The organised feelings, which are "felt for an object". These may be termed "objective feelings", since they have an object. Under the second class, Shand enumerated anger, fear, surprise, admiration, sympathy, hope, joy, despondency, regret, disappointment, envy, revenge, jealousy, pride, vanity, ambition, humiliation, shame. Shand here is very much confused over the whole issue. Some of these he later on classed as emotions and some he named as sentiments. Such a confusion will be seen later. The two classes, however, were further classified as the localised and the non-localised respectively. (3) Shand indicated as feelings all sentiments and interests such as love and hatred.⁽¹⁷⁶⁾

No marked difference is set up between an emotion and a passion from Shand's viewpoint. When a passion reaches an intensity to the extent that a person loses self-control, it is an emotion. Thus we speak of the passion of grief and the passion⁽¹⁷⁷⁾

(176) "Character and the Emotions", Mind, N.S., vol.V, (1896), op.cit., pp. 215, 225-226.

(177) ibid, p. 216.

of rage. As a corollary to this he adds, "It therefore seems best to use the term "emotion" to include joy, hope, despondency, and others like feelings, however faint their intensity is; and while they still remain emotions at their highest degree, this degree is more definitely expressed by the term "passion".⁽¹⁷⁸⁾ We find here that while McDougall⁽¹⁷⁹⁾ is talking, as above, of "complex feelings" as "derived emotions", Shand is subsuming under mere feelings "passions", "emotions", "affections" and "sentiments".

The terms "sentiment", "interest" and "affection" do not seem to mark any important difference for Shand; whereas interest to McDougall is any instinctive activity which has no emotional quality, as previously indicated. According to Shand we can speak of the sentiments of justice, truth, and the moral sentiments generally, as we can speak of the sentiment of friendship; but on his view we can talk of affection for our friends, rather than sentiment, and of interest in our health or business, rather than either.⁽¹⁸⁰⁾ The difference between our emotions and sentiments, Shand thought, lies in the different

(178) ibid, pp. 216-217.

(179) "Emotion and Feeling Distinguished", Feelings and Emotions, ed. by M.L. Reymert, (1928), op.cit., p.202.

(180) "Character and the Emotions" Mind, vol.V, (1896), op.cit., p. 217.

growth of their organisation. While the latter are highly organised - this seems to be one of the main points upon which he and McDougall differ- the former may subsist at a stage of relative isolation and simplicity. The emotions tend always to build themselves into more stable and complex feelings; these Shand called sentiments, which in their turn become the centres of attachment of the organised emotions. The sentiments and interests on the one hand, and the organised emotions on the other, all form two complementary classes. (181)

However admirable Shand's scheme may be, it cannot be denied that it is rather perplexing. The grouping of terms seems to have been made without any principle of classification. Some are qualities of action or conduct, as cruelty; others are sentiments, like friendship, love of knowledge or art, and self-interest; others are appetites, such as lust; others as hope, fear, anger, are emotions. Emotions he regarded as adjectival and qualify a more stable feeling, a point which is highly disputable, whereas the specific organisation of our sentiments Shand considered as the relatively stable centres to which emotions attach themselves.

(181) ibid, pp. 217-218.

To Shand "pleasure" and "pain" are "egoistic emotions". "Love" is sometimes classified as an "emotion" and at other times is regarded as a "sentiment"; The same applies to "hatred". (182)

The hierarchical, mutual dependence of emotions and sentiments as discerned by Shand can best be explained by citing his own words on the issue. "The sentiment as interpreted from the outside, is the thought of an object, as a permanent thing or quality. While the emotion, where it has a thought, refers to some change or event, not to a permanent quality. As the relatively stable thought of the sentiment is modified, and becomes, for instance, the thought of this man whom I like as injured or insulted, or this thing which I like as broken or lost, so an emotion is excited and merged in the sentiment; and the emotion is the sentiment as this change of thought is to the identity of thought on which it rests. And this identity of thought which refers to the same object with its feeling - tone and conative tendency, which persists through the emotional phases excited in it, is the sentiment. (183)

The views Shand put forward, as above, he considerably elaborated in his well-known book which might be regarded as

(182) ibid, pp. 219-223.

(183) "Character and the Emotions", Mind, vol.V, (1896), op.cit., p. 224.

classical. As already indicated,⁽¹⁸⁴⁾ Shand set himself to show that the basic constituents of character are instinct, emotion, and sentiment. It is now important to see what relation, from Shand's standpoint, obtains between instinct and emotion.

The emotions are "forces".⁽¹⁸⁵⁾ "They work in certain ways and in certain directions". They are within us to perform certain functions. They need, and in man they acquire, higher systems to control them; but, "they are essentially organised systems".⁽¹⁸⁶⁾ The emotion, on Shand's theory, is a "system" with three distinguishable parts, the emotion itself, the processes connected with it in the organism, or in "sub-consciousness",⁽¹⁸⁷⁾ and its outward expression and modes of behaviour. All these parts are related together and form one system - the system of the emotion. Now, although instinct is recognised in Shand's system, yet it has not been given that priority which McDougall gave as a substantial determinant of behaviour. For Shand what appears invariably to initiate the

(184) Part I, chap.III of the present study.

(185) The Foundations of Character, op.cit., (1914), 2nd. ed (1920), Rep. (1926), p.179.

(186) ibid, p.179.

(187) ibid, p.180, 185.

operation of an instinct is not "emotion" but "impulse". Without impulse it would be, from Shand's own viewpoint, no more than "a compound reflex action".⁽¹⁸⁸⁾ This simply means that an instinct is limited in scope and restricted in function. In other words, it is included in the activity of any primary emotion. This, once again, is one of the chief differences in opinion between him and McDougall.

An emotion with its system is considered by Shand as a more comprehensive fact than an instinct with its impulse, because in the emotional system, there may be organised a variety of instincts with their impulses, all of which subserve in different situations the same end of the emotion. According to this interpretation, there may be also in an emotional system a number of acquired tendencies. Corresponding with these innate and acquired tendencies in the system of an emotion, there will be felt and included a variety of impulses. On this view, an instinct has only one kind of behaviour connected with it, while an emotion has a variety of different kinds of behaviour attached to it.⁽¹⁸⁹⁾ This has been the essence of Shand's point of view which led him to formulate his twenty-sixth law regarding

(188) ibid, pp. 189-190.

(189) The Foundations of Character, op.cit., pp. 190-192.

the relation of instinct to emotion. The law reads "Every primary emotion tends to organise in its system, all instincts that are serviceable to its innately determined end, and to acquire many serviceable tendencies which modify such instincts".⁽¹⁹⁰⁾

Stressing this notion of the difference between "primary emotions" and "primary impulses", Shand indicated elsewhere,⁽¹⁹¹⁾ that primary impulses meant those that accompany and condition the operation of instincts. The essential differences which Shand conceived between emotions and impulses is that, while the former are wider in scope, the latter are more restricted in function. Here again, comes a crucial point of difference between his own observations and those of McDougall.

The problem of the relation of instinct and emotion was made the subject of a symposium between McDougall, Shand and Stout, at a meeting of The Aristotelian Society⁽¹⁹²⁾ (1915).

(190) ibid, p. 192.

(191) "Of Impulse, Emotion, and Instinct", Proc.Arist.Society, vol. XX, (1919), p.80; This article was later appended (Appendix I): To The Foundations of Character, pp. 526-541.

(192) Vol. XV (1915), "Instinct and Emotion".

According to the theory which McDougall consistently defended, an emotional experience of a particular kind forms a central part of every instinctive process. In the choice of primary emotions, for example, McDougall is guided by a principle, namely, that "each primary emotion accompanies the excitement of one of the instincts, and is the affective aspect of a simple instinctive mental process".⁽¹⁹³⁾ On McDougall's theory of the emotions, we only know the nature of our own motives from the peculiar quality of the emotion that is felt at the time. This he regarded as "the essential function of the emotional qualities in our mental life. They enable us to recognise our own state, and to regulate, direct, and in some degree control the impulses by which we are moved".⁽¹⁹⁴⁾ The primary emotion in itself is "an indicator of the instinctive impulse at work".⁽¹⁹⁵⁾ Its bodily expression serves "to indicate the nature of the impulse to our fellows and to evoke in them the same instinctive impulse, attitude, and emotional excitement".⁽¹⁹⁶⁾ An emotion has a quality which McDougall looked on as an all-important factor. It

(193) An Introduction to Social Psychology, op.cit., p.109.

(194) An Outline of Psychology, op.cit., p.326, see also :
Energies of Men, op.cit., pp. 148, 150.

(195) An Outline of Psychology, op.cit., p.325.

(196) ibid, p.325, see also : Energies of Men, op.cit., p.150.

is so because, as indicated above, the emotional qualities have "a cognitive function; they signify to us primarily not the nature of things, but rather the nature of our impulsive reactions to things; they are the cognitive basis of self-knowledge and self-control".⁽¹⁹⁷⁾ In this sense, they are subjective rather than objective.

Since the primary emotions⁽¹⁹⁸⁾ "may be combined in a large number of different ways" and since "the primaries that enter into the composition of a secondary emotion may be present in many different degrees of intensity," the whole range of "complex emotions presents an indefinitely large number of qualities that shade imperceptibly into one another without sharp dividing lines".⁽¹⁹⁹⁾ The complex emotional states McDougall divided into two main groups, roughly, (1) Those which do not necessarily imply the existence of any organised sentiment; and (2) those which can be experienced only in virtue of the existence of some sentiment within the system of which they may be said to

(197) ibid, p.326, see also : Energies of Men, op.cit., p.148.

(198) (1) cf. W.M.Marston's "Primary Colours and Primary Emotions" in Psyche, vol.VIII, No.2, (1927), pp. 4-33.

(11) J.C. Flügel's "The Emotional Value of Dress" in Psyche, vol. XII, No.1, (1931), pp.49-59.

(199) An Introduction to Social Psychology, op.cit., pp.109-110.

be excited. Under the first heading, McDougall discussed admiration, awe, reverence, gratitude, scorn, contempt, loathing, fascination, envy. Under the second category, he mentioned : reproach, anxiety, jealousy, vengeful emotion, resentment, shame, bashfulness, joy, sorrow, pity, happiness, surprise, remorse. (200)

Both classes above (1 and 2), McDougall later on subsumed under the sub-title of "the blended or secondary emotions". (201) The list was enlarged by adding to it, "horror" and "embarrassment". (202) In McDougall's opinion, it is possible to talk of blended or secondary emotions when two instinctive impulses may be excited simultaneously. This happens when an animal's behaviour is clearly the expression of a conflict and alternation between the aversion of fear and the attraction of curiosity. The two instincts aroused become directed toward two opposite goals; when the two contradict each other, the one impulse inhibits the other. (203) It is necessarily important to know that the complex emotional experience which McDougall defended is not literally formed by the separate excitement, the

(200) ibid, pp. 110-136.

(201) An Outline of Psychology, op.cit., p.329.

(202) ibid, pp. 330-336.

(203) ibid, p. 330.

coming together and the subsequent blending of two emotions, rather it is the immediate response to the complex situation in which the activity takes place.⁽²⁰⁴⁾

Besides the primary and blended or "complex" emotions, McDougall recognised what he called "derived emotions".⁽²⁰⁵⁾ These sometimes are confused and spoken of as varieties of "feeling".⁽²⁰⁶⁾ McDougall marked the difference by stating that the word "derived" is used "to denote the fact that an emotion of this class is not constantly correlated with any one impulse or tendency, but rather may arise in the course of the operation of any strong impulse or tendency."⁽²⁰⁷⁾ As derived emotions, McDougall depicted five : confidence,⁽²⁰⁸⁾ hope, despondency, and

(204) ibid, pp. 330ff.

(205) ibid, Ch.XII.

(206) (1) The Energies of Men, op.cit., p.151.

(11) An Outline of Psychology, op.cit., Ch.XII.

(207) (1) An Outline of Psychology, op.cit., p.338.

(11) An Introduction to Social Psychology, op.cit., pp.130, 364, 365.

(111) The Energies of Men, op.cit., p.151.

(208) An Outline of Psychology, op.cit., p. 339.

despair. These, Shand designated as, "the prospective emotions of desire",⁽²⁰⁹⁾ a phrase which McDougall accepted.⁽²¹⁰⁾

As he spoke above of prospective emotions of desire, McDougall also spoke of "retrospective emotions of desire".⁽²¹¹⁾ The argument put forward is that, "Although primitively, desire looks only toward some goal imagined as lying in the future, yet, in the developed mind, desire may be directed towards the past".⁽²¹²⁾ The confusion arises when we find that under this heading, both "remorse" and "sorrow" are included. These two words have already been categorised as complex emotions. "Regret"⁽²¹³⁾ is enumerated here as one of "the restrospective emotions of desire" - a

(209) The Foundations of Character, op.cit., pp. 462, 463.

(210) An Outline of Psychology, op.cit., p.341.

(211) (1) An Introduction to Social Psychology, op.cit., pp. 316, 375.

(11) An Outline of Psychology, op.cit., p.341.

(212) (1) An Outline of Psychology, op.cit., p.341.

(11) The Energies of Men, op.cit., pp. 4, 64.

(213) An Outline of Psychology, op.cit., p.342.

terminology that was not favoured by Shand. Another confusion emerges from re-classing of "joy" and "surprise"⁽²¹⁴⁾ as derived emotions. These two McDougall already named as complex or secondary emotions. It is difficult to accept the argument advanced to justify why he re-classed these four words, namely, remorse, sorrow, joy, and surprise, under different categories other than those under which he had discussed. However, the essence of McDougall's distinction between primary and derived emotions seems to be that the former are more directional in character and spring from immediately corresponding instinctive dispositions; whereas the latter are incidental to the object or the situation involved and are not attached or related to any specific instinct.

From the fore-going observations there seems to have been a considerable difference of opinion between McDougall and Shand concerning instincts, emotions and sentiments. Chief among these are the following. To Shand, the emotions are highly complex innate dispositions, while to McDougall they are affective - conative aspects, experienced when the appropriate instinct is excited. Shand regarded the sentiments as innately organised systems of emotional dispositions, whereas McDougall considered the sentiments as acquired through the individual's experience. Shand

(214) ibid, pp. 343-345.

spoke of prospective emotions of desire, where McDougall spoke of prospective and retrospective emotions of desire. Shand talked of desire as an emotional system, while to McDougall such an idea sounded indefensible. To Shand, emotions are forces. Forces to McDougall are the instincts. For Shand, the derived emotions have their own specific tendencies which McDougall denied. With Shand, the derived emotions are forces of character, an idea which McDougall stoutly rejected. The hierarchical system of sentiments is the basis of the character of the individual, according to McDougall. According to Shand "hope" is an independent motive and it enters into the structure of character, but not for McDougall. Shand thought that "anxiety" is a conative force, while McDougall spoke instead of the impulse of fear awakened by the thought of the consequences of some anticipated obstruction or danger. Sorrow for Shand is one of the primary emotions; whereas for McDougall it is

a derived emotion. (215) These and more differences exist to which both authors adhered. McDougall emphasised instinct as a primary

- (215) (i) McDougall, Wm., An Introduction to Social Psychology,
op.cit.,
- (ii) _____, An Outline of Psychology, op.cit.,
- (iii) _____, The Energies of Men, op.cit., Ch.XIV.
- (iv) _____, "Is Conscience an Emotion" The Hibbert Journal, vol.XIX, No.2, 1920-21, particularly p.283.
- (v) _____, "The Revival of Emotional Memories and its Therapeutic Value", Brit. Psychol. Med. Sec., vol.I, (1920), pp. 23-29.
- (vi) _____, "Belief as a Derived Emotion" Psychol. Rev., vol.28, No.5, (1921), pp.215-327.
- (vii) _____, "Instinct and Emotion" A Symposium, Proc. Aristot. Society, vol. V, (1914-1915).
- (viii) _____, "Character and the Emotions", Mind, N.S., vol. V, No.18, (1896), op.cit.
- (ix) _____, The Foundations of Character, op.cit.,
- (x) _____, "The Sources of Tender Emotion" Chap. XVI, in G.F. Stout's Groundwork of Psychology, pp. 176-194.
- (xi) _____, "Instinct and Emotion" A Symposium in Proc.Aristot.Society, vol. XV, (1914-1915), op.cit.,

and biological factor of behaviour, Shand stressed primary emotions as a biological force pursuing their innately determined ends by means of instincts. Shand thus conceived of instinct as of a secondary role in the individual's life. Besides, a primary emotion for Shand is essentially conative. Its original biological end is supplemented by a number of acquired ends; and emotions always have their cognitive aspects.⁽²¹⁶⁾ Shand's views expressed here seem to be supported to a degree by W.K. Wright⁽²¹⁷⁾ who stated "It seems to the reviewer that, while Mr. Shand has made a good point against Mr. McDougall in showing that an emotion may find expression in one of several modes of behaviour, and that the same mode of behaviour may be attached to different emotions, it none the less remains more advantageous to retain the term 'instinct' for the entire disposition which Shand calls the 'systems of the emotions', and to confine 'emotion' to the affective phase 'present in consciousness'". The citation here may also be taken as highly favouring McDougall's position. In accord with this is Stout's view expressed in the symposium⁽²¹⁸⁾ (1914-1915) already alluded to. Stout was disposed to

(216) Shand, A.F., "Instinct and Emotion", Proc.Aristot.Scoerty, op.cit., vol. XV, (1915), pp.75-76.

(217) See The Philosophical Review, vol. XXIII, (1914), p.5., it is also referred to by Shand above.

(218) "Instinct and Emotion", Proc.Aristot.Soc., vol. XV, p.99.

agree with McDougall in his protest against Shand's assumption that the systematic interconnection of emotions within a sentiment is due mainly to a special innate disposition rather than to general psychological laws.

The theories of McDougall and Shand are probably the most systematically worked out explanations in the literature of the relation between instinct and emotion. Yet neither of them, as it seems, has earned any general assent. A large part of the difficulty is due to the lack of any agreement as to what emotion is or to what the term should be applied. Some more exact definition is needed. To talk of "emotional systems" as Shand has done, is highly misleading, for emotional experience is not fundamental to them. It might be safer to describe them as conational systems, rather than emotional. "It is only the exigencies of a theory", wrote A. Campbell Garnett, "that would lead any one to assert that emotion is present in all those humdrum performances of everyday life where ... as McDougall rightly maintains, the conation springs from some instinctive sources".⁽²¹⁹⁾

(219) The Mind in Action, London, Nisbet and Co., (1931), p.46.

The general trend of thought regarding the theories of emotions may be summarised as follows:

In Shand's opinion, an emotion is a system, because its essential elements are geared for an end. The system of an emotion may contain several instincts. One or other of these instincts may be stimulated, and elicit the specific behaviour characteristic of it, without simultaneously evoking the emotion. An emotion tends to include in its system all instincts and other dispositions that subserve its end.

For the introspectionist, ⁽²²⁰⁾ emotion is a stirred up state of mind "analysable into kinaesthetic and organic sensations and feelings". The feelings may or may not be further reducible to organic sensations. The emotion according to this view, is of course, subjectively regarded.

From the behaviouristic standpoint, emotion is an inherited reaction pattern. Profound changes of the bodily mechanism are involved when an emotion is evoked. Emotion is thus analogous to instinct. The difference is that the latter is looked upon as an overt response. On this view, emotion is treated objectively.

(220) See (1) Bridges, J.W., "A Reconciliation of Current Theories of Emotion", Rep.Brit.Assoc., (1924), p.435;

See also: (11) Dunbar, F., Emotions and Bodily Changes, New York, Columbia Univ.Press, 4th. ed. (1954).

In the James-Lange theory,⁽²²¹⁾ an emotion was conceived of as the consciousness of the response. James emphasised the skeletal response. Lange stressed the vascular side.

According to J. Drever (Snr), two aspects must be distinctly discriminated, an instinct-interest which accompanies an instinct-activity, and emotion which follows the frustration of instinctive action.

McDougall's theory is that an emotion is the subjective aspect of an instinct. The two frequently occur together, since the same situation often leads to both types of response. In the case of McDougall's theory, however, the position, and to cite Smith (1960a) on this, is that, "In organisms where consistent ... conjunctions of stimulus and response have been noted, the instinct could be regarded as enhancing the popularity of a type of reaction and the empirical evidence of recorded conjunctions of stimulus and response could provide the basis for prediction ; but it should be remembered that not all of the animal's behaviour would be covered by such recorded conjunctions. Nevertheless, such findings in association with the knowledge of the life cycle and the present habitat could result in a very useful degree of co-ordination and prediction".⁽²²²⁾ Smith's statement may be taken to reflect the

(221) See: Broadhurst, P.L., and Eysenck, H.J., "Emotionality in the Rat: A Problem of Response Specificity" in : Studies in Psychology, op.cit., pp. 207-8.

(222) Explanation of Human Behaviour, op.cit., p.184.

genuine relation between instinct and emotion. No doubt, a piece of behaviour can be predicted on the basis of apriori knowledge of the instincts which are regarded as the major constituents of the organism's behavioural potential. That emotions are psychophysiological responses is indisputable. Every emotion has its subjective as well as objective aspects. In Smith's own words, the emotions, as McDougall discerned them, "did carry the implication of a general type, of action, but as stated, there would be difficulties in discerning just which emotion could be said to be operating and in any event; not all of the emotions listed have as yet been shown to have some kind of neurological or physiological correlate so that their status as existing states could be debated."⁽²²³⁾ Smith is apparently justified in his assumption that emotions "as existing states could be debated"; but the obstacles he is predicting may in no way hinder the effects of emotions as operative functions. Nevertheless, no better can be done in ending this section than citing Smith's conclusion about McDougall's arguments with regard to emotions. "In retrospect", writes Smith, "McDougall's system offered a classification of possible emotional states and impulses to action for some of which, parts of neurological correlates have been indicated. Within these

(223) Explanation of Human Behaviour, op.cit., pp. 184-185.

classifications, the organism, be it human or animal, behaved purposively so that, in effect, the system provided an outline of some possible necessary conditions and some sufficient reasons for behaviour". (224)

Quite in keeping with Smith's views, is Burt's theory of "general emotionality" (225) which is based upon, and empirically has provided support for McDougall's theory of emotions. Burt has found that by their hierarchical relations, emotional traits are mostly positive. For him, "the emotions ... are but special differentiations of a primal emotional energy, an elan vital or fundamental will to live". (226) This again, exactly reflects the views McDougall advanced, concerning emotions, to quote Smith (1960a), "It is frequently observed and Burt has provided experimental confirmation that the intensities with which emotional states as commonly described by different words are manifested, are positively correlated". (227) The mechanisms, however, which

(224) ibid, p.185; See also, (i) J.C.Flügel's article, "A Quantitative Study of Feeling and Emotion in Everyday Life", B.J.Psych., vol. XV, part 4, (1925), pp.318-355,

(11) J.T. McCurdy, The Psychology of Emotion, Cambridge (1925),

(111) Cf. D.O.Hebb, "Emotion in Animals and Man", Psych.Rev., vol. 53, (1946), pp.259-276.

(225) "The Factorial Analysis of Emotional Traits", Character and Personality, vol. VII, Nos.3 and 4, (1939), I, pp.238-54, II, 285-99;

(iv) Al-Bassam, A.A.I., A Study of Character Traits in School Children, A Ph.D.Thesis in the library of London University, (1950-51).

(226) The Young Delinquent, op.cit., p. 423.

(227) Explanation of Human Behaviour, op.cit., p.149.

underlie the emotions are held to be "as devices for generating" or at least "for strongly reinforcing, nervous energy" (Burt: 1939, p.250). A person, at any rate, is considered as, "highly emotional, with respect to several emotions" (Smith: 1960a, p.149), but there is a possibility which is to be accounted for, namely, that "the distinction between emotional states which is implied by the use of different words is based more upon the cognition of the situation and the outwardly observable reactions than upon introspectable differences between the associated emotional states" (Smith: 1960a, p.150). Whatever the criteria, McDougall's theory thus seems to be in a position to claim some support.

4. Discussion and some Inferences.

"While many others have written on the topic of instinct and motivation generally, McDougall's system is remarkable for a number of reasons".⁽²²⁸⁾ This statement which has been made by Smith (1960), is apparently based upon subsequent investigations and wide-scale study into the topic of instinct. Then Smith goes on to mention some aspects of McDougall's scheme, and more prominent are, "The vigorous presentation of the hormic or purposive conception, the postulation of distinctive neurological correlates for the

(228) Explanation of Human Behaviour, op.cit., footnote, p.120.

different instincts and the provision for the influence of the environment by way of the hierarchical organisation of sentiments and selves make the system the most comprehensive in outline in the recent history of psychology. Within the scope of the system, several fields of psychology and many issues which other writers have been able to treat in greater detail, are involved".⁽²²⁹⁾

In Smith's words, are outlined the salient features of McDougall's hormic theory, particularly the distinctive aspect of instinct. McDougall's version⁽²³⁰⁾ was that each instinct on being excited generates an urge, an impulse, or a conation to strive toward a goal peculiar to itself. The striving experience is not simply undifferentiated conative quality, but has in the case of each instinct, a quality relevant to itself called a primary emotional quality. So the general assumption that "emotions and instincts are in some way interrelated has remained influential, and finds expression in McDougall's theory", as D. Rapaport⁽²³¹⁾ (1961) has indicated. The eminent point in McDougall's theory is that emotions are intimately related to instincts, rather than

(229) ibid, p.120.

(230) "Purposive Striving as a fundamental category of Psychology", Psych.Rev., vol.32, (1925), pp.307ff.

(231) Emotions and Memory, New York, Science edition, p.23.

being regarded as "sensory processes" to use Rapaport's own words. In fact, McDougall's capability of viewing emotions and conations as being closely linked, has led to the intimate relation of emotions and motivations in present day psychology.⁽²³²⁾

Repeatedly, McDougall tried to justify, clarify and rectify his theory of instinct. Often he wrote in an emphatic way such as this, "there is every reason to believe that even the most purely instinctive action is the outcome of a distinctly mental process".⁽²³³⁾ Yet he conceded that when he spoke of any particular instinct he did not reckon of its nature in the static terms; but that a large scale of observations may be conducive to valid information in connection with instinct. Still further, he endeavoured to distinguish between the facts of mental structure, which are inferential from the behaviour manifested, and the facts of activity itself. To clarify the situation further, McDougall pointed out⁽²³⁴⁾ certain features as denoting the instinctive activity, namely, (1) the instinct does not reveal its whole nature

(232) ibid, p.24.

(233) (1) An Introduction to Social Psychology, op.cit., p.27.

(11)An outline of Psychology, op.cit., p.103.

(234) (1) An Introduction to Social Psychology, op.cit., pp.27-28.

(11)An outline of Psychology, op.cit., pp.103-105.

in one action or one train of behaviour. (2) Any one instinct constitutes one example of the large class of similar concrete facts or things. (3) Comparative study of different species may throw light upon any particular instinct. (4) An instinct is a "Mendelian unit" whose existence can be proved by means of biological study of heredity. (5) An instinct is a "unit factor" of which it is meant that it is transmissible. (6) An instinct is a permanent feature of the constitution of any individual animal. (7) Physiologically, an instinctive activity is bound up with the whole integrity of the nervous system. (8) An instinctive functioning implies a considerable amount of prediction.

Certain conclusions may now be indicated. An instinct may be defined and identified in terms of, (i) the nature of the goal sought after; (ii) the kind of the situation involved; (iii) the object or the specific stimuli that activates it within that particular situation; (iv) more important perhaps is that the above broad characteristics may be regarded as an amplification of the descriptive marks of behaviour. These are: (235) (1) a certain spontaneity of movement. (2) The persistence of activity independently of the continuance of the impression which may have initiated it. (3) variation of direction of persistent movements.

(235) An outline of Psychology, op.cit., pp.44-56.

(4) The coming to an end of the animal's movements as soon as they brought a particular kind of change in its situation. (5) Preparation for the new situation toward the production of which the action contributes. (6) Some degree of improvement in the effectiveness of behaviour, when it is repeated by the animal under similar circumstances. (7) Purposive action is a total reaction of the organism.

The last category (no.7) seems to be of wider implications. Further analysis would show that (a) it indicates that purpose implies foresight. (b) It involves the impression that purposive action is the most essential characteristic in hormic psychology. (c) It reflects the idea that purposiveness is the essence of mental activity. (d) Behaviour is a continuous flow of activities. (e) The activities themselves are resultants of mobilised energy. (f) The source of this energy is instinct which is inherited in the manner of a Mendelian characteristic. Yet behaviour is not determined by any particular or single instinct; and instincts are discovered by means of inference which can be made through the consistency of the observable acts performed. Furthermore, since instincts are inherent in the constitution of the individual organism, and physiologically are neural dispositions, they are bound to have bearing on motivational courses of behaviour. Scientific evidence for their existences comes from persistent behaviour and from scientific methods such as ethological approaches

in observation as well as experimentation. The immanent question is now whether the doctrine of instinct was exonerated from exorbitant criticisms. Evidence, which is abundant, suggests and clearly shows that both McDougall and instincts became a target for strictures. This was why he used the term "propensity"⁽²³⁶⁾ as an alternative to instinct. His explanation of propensities indicates that they are the cores of instinct, if not instincts under a different name. The word "propensity" McDougall borrowed from Dugald Stewart⁽²³⁷⁾ (1855), who had written of what he called "implanted propensities" whereby he meant "appetites", "desires" and "affections". Stewart himself also mentioned "instinctive propensities".

Fundamentally, the whole disagreement pertinent to instincts seems to centre mainly around the following items:

- (1) theoretical problems.
- (2) The nature and ground of instincts.
- (3) The number of instincts.
- (4) The innateness of instincts, whether they are inherited or acquired wholly or in part.
- (5) Where more instincts could be found : in man or in animals.
- (6) The way of grouping instincts into certain classes.
- (7) Whether instincts are cognitive, conative, affective, or all of these factors.

(236) The Energies of Men, (1932), op.cit., pp.26,64,97-98.

(237) The Philosophy of the Active and Moral Powers of Man, Edinburgh, Thomas Constable and Co., vol.I, pp.4,9; ed. by Sir Wm. Hamilton under the title: The Collected Works of Dugald Stewart, vol.VI.

(8) How instincts are to be considered: teleologically and vitalistically or mechanistically. (9) Whether alternative names such as, for example, drives, fixed patterns, reflexes, "goads and guides",⁽²³⁸⁾ psychogenetic activators, motor sets, orthogenetic elements, biogenetic tendencies, operative factors, mental predispositions, hormic energies, and the like, could be used instead of instincts. (10) The localisation of instincts. (11) Relations of emotions to instincts and which should come first and have the priority in determining behaviour. (12) The basic criteria to be adopted in indicating instincts: (a) biological, (b) psychological, (c) statistical, (d) the behaviour overtly expressed, (e) the activities generally, both mentally and physically, (f) the direction of activity assumed by the behaving individual, (g) the goal attained and whether these categories (a to g) can be taken individually or as a whole as indicative of instinctive activities.

Anyhow, in whatever sense they may be used, instincts now appear to be widely recognised by almost all psychologists as biological and psychological phenomena; and the question in Great Britain was, and perhaps is still, "Whether man may not have carried these instinctive modes of behaviour upward with him in the course

(238) This is the title of Chapter 16 in: "Psychology, The Science of Mental Life", by George A. Miller, Pelican edition, (1966).

of evolution, and whether they are not still the basis of his complex existence". This query which Cyril Burt⁽²³⁹⁾ has raised (1941) seems to be a repetition of McDougall's⁽²⁴⁰⁾ expressed wonder, "how any one can deny the importance of human instinct, without denying it also in the mammals in general, or without denying the continuity of evolution of man from the animals". An affirmative answer, however, has often been given by a considerable number of authors, notably, Stout (1932), J. Drever (Snr) (1917,1942), Francis Aveling (1937), Godfrey H.Thomson (1924), C.S. Myers (1910, 1942), A.C.Garnet (1928), Burlton Allen⁽²⁴¹⁾ (1930), A.G.Tansley⁽²⁴²⁾ (1920, 1952), W.H.Thorpe (1956), F.V.Smith (1960a, 1968a), and others, and

(239) "Is the Doctrine of Instincts Dead ?" Brit.J.Ed.Psych., vol. XI, p.156.

(240) J. Abnor. and Social Psychol., vol. XVI, (1922), op.cit.,

(241) Pleasure and Instinct, London, Kegan Paul.

(242) (1) (1920) The New Psychology, London, George Allen and Unwin.

(11) (1952) Mind and Life, London, George Allen and Unwin.

as Smith⁽²⁴³⁾ (1960a) has remarked "The pendulum which seemed to be swinging away from specificity in the 1930's⁽²⁴⁴⁾ would now appear to be returning" in favour of instinct. Later chapters will show that modern evidence concerning the 'neurological correlate' (McDougall's phrase) further supports this view.

(243) Explanation of Human Behaviour, op.cit., p.178.

(244) (1) Under the influence of:

Kuo, Z.Y., (1) "Giving up instincts in Psychology"
J.Philos., vol. XVIII, (1921), op.cit.,

(11) "How Are our Instincts Acquired ? "
Psych.Rev., vol. XXIX, (1922), op.cit.,

(111) "The Genesis of the Cat's Response to
the Rat", J.Comp.Psych., vol.XI, (1930),
op.cit.,

(2) and Lashley, K.S., Brain Mechanisms and Intelligence,
Monograph, Chicago, University of Chicago Press,
(1929).

CHAPTER VII.

BROAD FEATURES OF THE HORMIC

THEORY.

1. Principal Bases Stated.

The descriptive title "Hormic Psychology",⁽¹⁾ McDougall adopted in 1930; and hoped that it would serve as "a banner and badge"⁽²⁾ to many psychologists. Although he regretted⁽³⁾ that he did not use this title at the first publication of his Introduction to Social Psychology (1908), by the year 1930, however, it appeared to McDougall that "his crusade had made noticeable progress",⁽⁴⁾ to use a sentence from Woodworth. In point of fact, the principle of the hormic theory was already set out in the book clearly and explicitly. The most essential sentences need only be reproduced here. "We may say, then," wrote McDougall, "that directly or indirectly the instincts are the prime movers of all human activity; by the conative or the impulsive force of some instinct (or of some habit derived from an instinct), every train of thought, however cold and passionless it may seem,

(1) "Hormic Psychology" in : Psychologies of 1930, ed. by C.Murchison, Clark Univ.Press, Mass.

(2) Preface to the twenty-second ed. of : Introduction to Social Psychology, p. xx.

(3) ibid, p. xix.

(4) Contemporary Schools of Psychology, op.cit., p.228.

is borne along towards its end, and every bodily activity is initiated and sustained. The instinctive impulses determine the ends of all activities and supply the driving power by which all mental activities are sustained; and all the complex intellectual apparatus of the most highly developed mind is but a means towards these ends, is but the instrument by which these impulses seek their satisfaction ... Take away these instinctive dispositions with their powerful impulses, and the organism would become incapable of activity of any kind; it would be inert and motionless like a wonderful clockwork whose main spring had been removed or a steam-engine whose fires had been drawn. These impulses are the mental forces that maintain and shape all the life of individuals and societies, and in them we are confronted with the central mystery of life and mind and will".⁽⁵⁾

The reason why the above passage has been quoted at length^{ly} mainly because it is basic to McDougall's whole arguments. ^x It gives the impression that, to cite Smith (1960) "McDougall was prompted by the observation of the broad consistent features in human and animal behaviour to advance the hypothesis of some underlying feature in the structure of the organism which could be responsible by way of prescription, for the observed consistencies".⁽⁶⁾

(5) An Introduction to Social Psychology, op.cit., 25th ed., p.38.

(6) Explanation of Human Behaviour, op.cit., p.128.

So McDougall's statement, which has so often been quoted by many an author may be regarded as the key to his hormic theory of behaviour. Therefore it is highly probable that he had for some time been anticipating a hormic psychology for which he furnished the first foundations; and the implication of Smith's observation here, particularly of "consistent features" and "observed consistencies", seems to indicate the innateness of instinct which may be realised at any one of certain phases: (i) in the instigation of activity, (ii) in the predominance of one movement over others, (iii) in an innate ability of selective perception. Examples may illustrate the case. In a number of publications, F.V.Smith⁽⁷⁾ (1960,1962), Smith et⁽⁸⁾

(7) (i) (1960), Animal Behaviour, vol.8, pp.197-200.

(ii) (1962), Symp.Zool.Society of London, vol.8, pp.171-191.

(8) (i) (1961), Animal Behaviour, vol.9, pp.159-166.

(ii) (1963a), Animal Behaviour, vol.11, pp.57-61.

(iii) (1963b), Animal Behaviour, vol.11, pp.300-305.

(iv) (1963c), Animal Behaviour, vol.11, pp.397-399.

(v) (1964a), Animal Behaviour, vol.12, pp.60-63.

(vi) (1964b), Animal Behaviour, vol.12, pp.252-258.

(vii) (1964c), Animal Behaviour, vol.12, pp.259-263.

(viii) (1966a), Animal Behaviour, vol.14, pp.120-125.

(ix) (1966b), Animal Behaviour, vol.14, pp.291-295.

al (1961,1963a,1963b,1963c,1964a,1964b,1964c,1966a,1966b), could demonstrate an hypothesis, namely, "the visual stimuli effective in evoking initial approach and fixation" in chicks, are liable to vary according as to the colour of the light, frequency and intensity of the stimulus involved in the situation and the distance of the object above the chick. To describe one experiment fully may suffice at the moment. Smith and P.A.Hoyes (1961),⁽⁹⁾ for example, found that the chicks used to move in the direction of "the familiar stimulus which they had approached during the week and remained in its immediate vicinity even though" they were presented simultaneously with another stimulus "clearly visible to them".⁽¹⁰⁾ The experimenters have stated that "some chicks do respond strongly with the complete pattern of movements after initially turning away".⁽¹¹⁾ Such "strong effort to respond" seemed clear to the experimenters even in "chicks with considerable deformation of the feet".⁽¹²⁾ The gist of the experiment is that two objects were suspended from a radius arm at different heights of about 6" and 20" above the floor.⁽¹³⁾

(9) "Properties of the visual stimuli for the Approach Response in the Domestic Chirck", Animal Behaviour, No.219, vol.9, July-October, (1961), pp.159-166.

(10) ibid, pp.164-5.

(11) ibid, p.165.

(12) ibid, p.165.

(13) see also Smith, F.V., Imprinting, MS, op.cit., pp.33,40,43,44,48, 65,89,99,119.

It was found that lower objects were far more effective in attracting the attention of the chicks. The conclusion that the experimenters reached was this, "While the results ... do indicate that some features of the stimulus situation are more significant than others in inducing the initial movement of approach, our observations would suggest that exclusive attachment to a particular stimulus is not a sudden and irrevocable development".⁽¹⁴⁾ There is evidence of learning; but the essential point is that the process of learning begins within the relatively narrow range of stimuli which are initially effective.

Smith⁽¹⁵⁾ (1968) has on various occasions "been able to induce avid following to a red box in domestic ducklings (Khaki Campbells) and after several training trials with this object for 8 consecutive days and with virtually a maximum response, the birds transferred similar, rapid approach to a flashing light, a rotating black and white disc" and even Smith himself. Movement within a certain height appears to be the essential feature. Another example can be drawn from an independent study by G. Gottlieb (1968), which seems to support Smith's findings. Gottlieb's experiments were intended to assess "the relative importance of species - typical, maternal auditory and visual stimulation in the development of species

(14) Animal Behaviour, vol.9, (1961), op.cit., p.165.

(15) Imprinting, MS, op.cit., pp.89-90.

identification during the early postnatal phase"⁽¹⁶⁾ in Wood ducklings and Mallard ducklings. The final results showed that maternal, auditory stimulation has a more preponderant role than maternal visual stimulation in attracting ducklings of both species to their parents. "Therefore", concludes Gottlieb, "the maternal call would seem to function as the selective part of the audiovisual, perceptual mechanism for species - recognition, assuring that the approach aspect of the following - response will be both (1) prompt and (2) addressed to the biologically appropriate object".⁽¹⁷⁾

Indeed, such studies as those carried out by Smith, Smith et al., Gottlieb, and by others, tend to indicate that at least in some of his contentions, McDougall could be justified. His postulation that "the instinct is not defined by the kind or kinds of bodily activity to which it impels the animal, but rather by the nature of the objects and situations which evoke it and, more especially, by the nature of the goal, the change in the situation, in the object or in the animal's relation to it, to which instinct impels",⁽¹⁸⁾ clearly reflects the significance of the perceptual and

(16) "Species Recognition in Ground-Nesting and Hole-Nesting Ducklings" Ecology, vol.49, No.1, (1968), pp.87-95.

(17) ibid, p.95.

(18) An Introduction to Social Psychology, op.cit., p.416.

cognitive powers which enable the organism to adapt itself to the surrounding environment and the changing conditions in it. Moreover, McDougall's statement, cited here, further points out that behaviour cannot be explained simply in terms of, say, S-R alone, nor should it be interpreted in terms of habit which Margaret A. Boden⁽¹⁹⁾ (1965) has likened to "our linguistic habits which determine the manner in which we ask for something, but not what we ask for". The point to be stressed here, however, is that principles which eventually render the individual's behaviour intelligible are to be searched for within the individual concerned; such basic principles are inborn and represented by instincts or "innate propensities".⁽²⁰⁾

Behaviour is but a perceptual rhythm of energy discharged from within the individual. Within this context, the individual instincts can now be realised for what they really are; they can be conceived as "labels attached to classifications of behaviour patterns in terms of their individual end-states such as eating, fighting, or mating; or in terms of their biological function" such as reproduction, (S.Millar: 1968, p.36).⁽²¹⁾ As a corollary of this, the individual instincts will incessantly demand renewed satisfaction so that the biological, psychical and physical needs can

(19) "McDougall Revisited" J. Personality, vol.33, p.10.

(20) The Energies of Men, op.cit., Ch.VII.

(21) The Psychology of Play, Pelican ed.

be met and a homeostatic equilibrium is maintained. Now the relation between innate activities, the state of the organism's central nervous system and the conditions of the external environment are no longer explained as a mere spilling over of accumulated energy (R.A.Hinde⁽²²⁾; (1954; P.Zeiger:⁽²³⁾ 1964). The cogent reason is that organisms do not have to be goaded into action; they move and behave quite voluntarily by virtue of being alive; but the analysis into motivating urges, innate behavioural patterns and environmental stimulations can lead to a better understanding of the situations as a whole". The emphasis, however, to quote Smith (1960a, p.134) is to be "upon changes in total patterns and changes associated with interactions between wholes rather than specific 'one to one' associations".

So too, the activities of the organism are generally interpreted as actions of a living individuality. The acts are normally carried out in response to felt urges and according to the

(22) "Factors Governing the changes in Strength of a Partially Inborn Response, as shown by the Mobbing Behaviour of the Chaffinch (*Fringilla coelebs*", 1 and 2, Proc.Roy.Soc., vol.142, pp.306-331, and 331-358; see also Hinde's paper :

"Energy Models of Motivation", Symp.Soc.Exp.Biol., vol.14, (1960), pp.199-213, op.cit.,

(23) "Displacement Activity and Motivational Theory : A Case Study in the History of Ethology" Psych.Bull, vol.63, pp.362-376.

organism's own "senses", to use a word from L.H. Matthews and M.Knight (1963)⁽²⁴⁾ and S.A. Barnett (1967).⁽²⁵⁾ The flexibility shown in the individual's movements is attributable mainly to the perceptual power implied in the formation of the cognitive system. Such a perceptual aspect is exhibited by the organism of the changes happening in the environment. The special characteristic of instinctive behaviour is that it is neither taught nor is it acquired. Undoubtedly, maturation, experience and learning do increase the skill of the inborn performances. Newly hatched chicks, for example, start pecking at things about them such as grains, but trials-and-errors cannot be ruled out here. The chicks sometimes peck quite randomly. Accuracy, poor at first, improves rapidly as they continue their practices of pecking and swallowing. It must be equally noted that learning is not at all times vital for all varieties of behaviour; the tendency to peck at small things already exists in the newly hatched chicks. The inborn pecking tendency has been designated by Hebb⁽²⁶⁾(1966) as "reflexive", whereby he meant that "no learning is involved", and the "unconditioned reflex paths are in general laid down by heredity and growth processes".

(24) The Senses of Animals, London, Museum Press.

(25) Instinct and Intelligence, London, MacGibbon and Kee, p.5.

(26) A Textbook of Psychology, Philadelphia, Saunders Co., 2nd ed., p.145.

It can be stated at this stage that instinct can now be regarded^{as} a concept of genuine scientific value. As an active motivating factor of a co-ordinated and purposeful behaviour, it attracted the attention of psychologists, ethologists and physiologists to investigate it within McDougall's "neurological framework" (Smith⁽²⁷⁾: 1960a, p.134). Of particular importance for the question of motivation is the hypothalamus, as already indicated. What Hebb⁽²⁸⁾ (1955) has called the "new neurology" is in fact an indication of the tremendous volume of studies exploring the concept of the nervous hierarchies and the localisation of motivational activators, particularly instincts. Incidentally, the idea of nervous hierarchies was first introduced by Herbert Spencer in the second edition of his Principles of Psychology⁽²⁹⁾ (1870-2), but the concept has now been revived in connection with the instinctive behaviour when Tinbergen⁽³⁰⁾ (1951) introduced a schematic diagram of

(27) Explanation of Human Behaviour, op.cit.,

(28) "Drives and the conceptual Nervous System", Psych.Rev., Vol.62, pp.243-254.

(29) 1st published in 1855, op.cit.,

(30) The Study of Instinct, op.cit.,

innate activities involving the concept of a series of "centres" of hierarchical levels superimposed on one another. The highest centre is believed to provide motivational energies which flow down into the centres next below. Interest in locating the motivators of functions encouraged investigators such as Cannon and Britton, and Bard, as pointed out, to show that "sham rage" in cats is controlled by the "posterior hypothalamus". The interesting thing about "sham rage" is that it differs from ordinary rage in some ways: (i) it can be evoked by mild stimulation, even by stroking the animal; (ii) it ceases as soon as stimulation stops, whereas normal rage lasts longer; (iii) it is undirected and therefore it is not purposeful. Other studies, such as those introduced by, for instance, F.A. Beach⁽³¹⁾ (1937, 1940, 1942, 1947, 1951) tend to confirm

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- (31) (i) (1937) "The Neural Basis of Innate Behaviour. I. Effects of Cortical Lesions upon the Maternal Behaviour Pattern in the Rat", J.Comp.Psych., vol.24, pp.393-436.
- (ii) (1940) "Effects of Cortical Lesions upon the Copulatory Behaviour of Male Rats", J.Comp.Psych., vol.29, pp.193-239.
- (iii) (1942) "Central Nervous Mechanisms Involved in the Reproductive Behaviour of Vertebrates", Psych.Bull, vol.39, pp.200-206.
- (iv) (1947) "A Review of Physiological and Psychological Studies of Sexual Behaviour in Animals", Physiol.Rev., vol.27, pp.240-307.
- (v) (1951) "Instinctive Behaviour : Reproductive Activities", in S.S. Stevens, (ed.) : Handbook of Experimental Psychology, New York, John Wiley and Sons, pp.403ff.

McDougall's hormic position, namely, that instinctive behaviour is largely independent of prior experience and learning. Beach has found that certain features of the mating behaviour of rats are in fact instinctive. He based his suggestion upon the fact that the mating activities continued even after the removal of as much as 40 percent of the cortex; this once again confirms the essential role of the tissues of the hypothalamus which would mean that, "Despite its relatively small size, the hypothalamus has, indirectly or directly, a wealth of functional connections with other parts of the brain" (Smith: 1960a, p.135).

Studies such as those indicated above and others done by, for example, W.H. Ittelson and F.P. Kilpatrick⁽³²⁾ (1951), R.A. Butler⁽³³⁾ (1954), N. Tinbergen⁽³⁴⁾ (1955), A.D. Hasler and J.A. Larsen⁽³⁵⁾ (1955), A.M. Guhl⁽³⁶⁾ (1956), J. Olds⁽³⁷⁾ (1956), E.H. Hess⁽³⁸⁾

(32) "Experiments in Perception" in : Scientific American, Psychobiology, op.cit., pp.330-5.

(33) "Curiosity in Monkeys", Scientific American, op.cit., pp.173-7.

(34) "The Curious Behaviour of the Stickleback", idem, pp.5-9.

(35) "The Homing Salmon", idem, pp.20-23.

(36) "The Social Order of Chickens", idem, pp.113-116.

(37) "Pleasure Centres in the Brain", idem, pp.183-188.

(38) "Imprinting in Animals", idem, pp.107-112.

(1958), S.L. Washburn and I. Devore⁽³⁹⁾ (1961), R.L. Fantz⁽⁴⁰⁾ (1961), W.C. Dilger⁽⁴¹⁾ (1962), Von Holst and Ursula von Saint Paul⁽⁴²⁾ (1962), D.H. Hubel⁽⁴³⁾ (1963), D.S. Lehrman⁽⁴⁴⁾ (1964), W.R.A. Muntz⁽⁴⁵⁾ (1964), S. Levine⁽⁴⁶⁾ (1966), Smith et al.⁽⁴⁷⁾ (1961), Smith⁽⁴⁸⁾ (1966,1968), point to several equally important facts, namely, (1) behaviour, both human and animal, is "coded in" their "genes"; (2) this would entail a focal point, namely, that the control systems are present in the brain, which determine how the individual will act; (3) differences in behavioural patterns between different species are indicative of

(39) "The Social Life of Baboons," idem, pp.10-19.

(40) "The Origin of Form Perception", idem, pp.308-314.

(41) "The Behaviour of Lovebirds", idem, pp.45-52; cf. Armstrong, E.A., Bird Display and Behaviour: An Introduction to the Study of Bird Psychology, Dover, (1965), op.cit.,

(42) "Electrically Controlled Behaviour", idem, pp.56-65.

(43) "The visual cortex of the Brain", idem, pp.270-8.

(44) "The Reproductive Behaviour of Ring Doves", idem, pp.82-88.

(45) "Vision in Frogs", idem, pp.279-286.

(46) "Sex Differences in the Brain", idem, pp.76-81.

(47) op.cit., Ch.VI above.

(48) (1) (1966), op.cit., Ch.VI above.

(11) (1968), Imprinting, MS, op.cit.,

the different evolutionary phases that the species represent;

(4) above all, these studies have definitely revived a possibility, namely, that specific instincts as worked out by McDougall exist with their own "neurological correlates". Such investigations have in fact, to quote Smith⁽⁴⁹⁾ (1968a), confirmed "The notion of different 'neurological correlates' mediating specific types of purposeful behaviour". In a sense, this would mean that the origins of motivation are to be looked for in the dominant hormé of the organism; in what John F. Hall⁽⁵⁰⁾ (1965) has called "the biological needs" which arouse a "spontaneous", "unlearned" activity. The "spontaneous", "unlearned" activity is certainly prompted by instinct which is (a) inherited, (b) forms the foundations of the whole function, (c) conative in pursuance of a fundamental aim which is expected to conserve both the individual and the species, (d) there is continuity of a common mechanism at all levels in the centres of the nervous system.

However, the issue seems to be as Smith (1960) has indicated, namely, "The whole problem of innate mechanisms and their prescriptive influence upon behaviour is complicated by the all-

(49) Imprinting, op.cit., pp.10-11.

(50) The Psychology of Learning, New York, J.B. Lippincott, Co., p.73, see also :

Mowrer, O. Hobart, Learning Theory and Behaviour, New York, Wiley, (1960), pp.175-182.

pervading nature of the assumption of the purposive hormé".⁽⁵¹⁾ The complicated position in McDougall's hormic scheme, and which Smith envisages, appears to be related to (i) specific inborn tendencies which underlie the organism's response, and (ii) the way in which the behaviour as a whole should be interpreted. Both aspects, however, are inextricably associated, so that an explanation of the one requires at the same time, the interpretation of the other.

In its broad basis, McDougall's hormic theory is supposed to reflect certain features which are characteristic of its own setting. Incidentally, the term "hormé" McDougall borrowed from T.P.Nunn⁽⁵²⁾ (1920) who used it in the sense of "urge" or felt tendency toward an end. According to the hormic view, man is to be conceived as a single organism, a "body-mind", the latest phase of evolutionary process; and hormé, in this context, is "the basis of the activities that differentiate the living animal from dead matter".⁽⁵³⁾ Yet unlike Nunn, McDougall used hormé in a broader sense and ascribed consciousness and conation even to the lowly organisms. This perhaps was the essential difference between the two standpoints.

(51) Explanation of Human Behaviour, op.cit., pp.129-130.

(52) Education: Its Data and First Principles, op.cit., 23; 2nd. ed. (1934).

(53) ibid, p.28; see also, pp.19, 21-22.

By the hormic theory, then, McDougall meant⁽⁵⁴⁾ that man and animals are innately equipped with tendencies urging them to seek certain ends natural to the species. In this connection, cognition is regarded as having a principal role in guiding the dispositions towards their appropriate goals. In calling his position the "hormic theory", McDougall⁽⁵⁵⁾ simply meant that in all organic psychic and mental life, and in all animal and human behaviour, there is an original "vital nisus" towards purposive action. The action is prompted by instincts, and at the higher levels of organic development, is directed to ever more intelligent paths. Perhaps this is why he regarded instinct "everywhere shot through with intelligence". This is what Smith seems to have in mind when he stated that "The fertility of this system (McDougall's system) in providing reasons for any form of human or animal behaviour ... is due to the nature of the initial assumptions".⁽⁵⁶⁾ This statement Smith has rejoined by adding "All animal behaviour is hormic or purposive".⁽⁵⁷⁾ By so stating, Smith is actually emphasising what McDougall himself would have said and what Tolman, a behaviourist, has stated. Interpreted in the light of recent literature, purposive

(54) "Pleasure, Pain and Conation", B.J.Psychol. vol. XVII, part 3, (1927), p.171.

(55) Modern Materialism and Emergent Evolution, London, Methuen, (1929), p.39.

(56) Explanation of Human Behaviour, op.cit., p.178.

(57) ibid, p.178.

behaviour, to cite a sentence from J.R. Millenson⁽⁵⁸⁾ (1967), is "behaviour that is almost defined by its consequences". This would aptly match what McDougall called "teleological causation"⁽⁵⁹⁾ which implies that the individual has an insight into and foresight of the goals towards which it strives. Purposive actions are in fact the patterns of such causation; and the ability of perception within the whole function of behaviour is always a step towards the activity as a whole.

Purposively explained, then, and to quote Millenson again, to say that "rats burrow into holes to escape the cold can equivalently be expressed by the statement that rats have often in the past burrowed into holes and found warmer temperature".⁽⁶⁰⁾ Briefly, the rats' behaviour is purposive, it arises out of certain situations which involve both experience that the rats had before and a choice of what they seemed to have wanted to do. To use a McDougallian terminology, the behaviour of the rats is purposive, voluntary and wilful; and in this sense it is similar to E.L. Thorndike's "instrumental" and B.F. Skinner's "operant" behaviours'.⁽⁶¹⁾

(58) Principles of Behavioural Analysis, New York, the MacMillan Co., p.62.

(59) (1) Modern Materialism and Emergent Evolution, op.cit., pp.39-40.

(11) Body and Mind, Bacon Paperback ed., (1961), first published in (1911), p.244.

(60) Principles of Behavioural Analysis, op.cit. p.63.

(61) (1) Millenson, J.R., op.cit., pp.63-64.

(11) The Fundamentals of Learning, New York, Columbia Univ.(1933).

(111) Cumulative Record, London, Methuen, enlarged ed. (1961), p.103.

Both terms indicate that behaviour is oriented to attain ends, and it is determined by internal motivating factors and past experience. Yet behaviour cannot be understood fully without calculating its motivating elements and cognitive and conative ingredients, facts which are now widely recognised (D.G.Hebb: 1955,⁽⁶²⁾ 1960;⁽⁶³⁾ Robert B. Malmö:⁽⁶⁴⁾ 1959; Leon Festinger:⁽⁶⁵⁾ 1964). The question of motivation and activation comes at the basis of conative, purposive, hormic behaviour. Such behaviour appears to be widely accepted now and it springs from instincts as prime movers.

Any way, whatever may be the views maintained in respect of behaviour, the essential features of motivational activities seem to be : (1) they are purposive and means-ends oriented. (2) They all seem to emerge from a state of excitement. (3) In all cases, behaviour is pervasively controlled and influenced by internal as well as external conditions. (4) The internal conditions are contingent upon

(62) "Drive and C.N.S. (Conceptual Nervous System)", Psychol. Rev., vol. 62, pp.243-354.

(63) Presidential Address in : Amer.Psychol., vol.15, pp.735-745.

(64) "Activation: A Neurophysiological Dimension" Psychol.Rev., vol.66, pp.367-386.

(65) "The Motivating Effect of Cognitive Dissonance" in : Readings in the Cognitive Processes, ed. by C.C. Anderson, C.M. Christenson and S.M. Hunka, University of Alberta, Prentice-Hall, (1964), pp.509ff.

innate factors. (5) Conscious experiences are often the dominant characteristics of the activities exercised by the organism.

(6) Former experience is ruled out in the case of the self-regulated performances functioned^{ing} for the first time; later experience, however, may help modify the behaviour. (7) The activities are not haphazardly performed; they serve and fulfill biological, physiological and psychical ends. (8) Behaviour is not merely the overt movements that the organism demonstrates, rather, it is the apex, the outcome of a multitude of elements, both congenital and environmental. It follows from this that the hormic theory, as worked out by McDougall, is not only purposive, but also animistic in character. This means that the organism, in its striving, expresses purposive pursuance, and is essentially and inwardly motivated to achieve a certain segment of behaviour. This again, entails that the urges that instigate the organism to be active are connate and in most cases, the goal desired is anticipated. In its activity, however, the conating individual is not without insight, foresight and cognitive experience or "natural experience",⁽⁶⁶⁾ to use Lloyd Morgan's expression. The cognitive experience becomes circumspectly part of the organism's knowledge which consequently would facilitate its futureⁱⁿ similar situations. /

(66) (1) "The Natural History of Experience", B.J.Psychol., vol.III, part I, (1909), pp. 11ff.

(11) Life, Mind and Spirit, The Gifford Lectures, London, William Norgate, (1925).

The question now is, why McDougall was so insistent on emphasising the part instinct plays in hormic psychology, whereas some psychologists such as the behaviourists, for example, seemed to be somewhat reluctant and dubious in their acceptance. The position appears to be like this: the view that behaviour is a product of external stimuli and forces seemed unattractive to McDougall. Having been an instinctivist, a cognivist, and a vitalist, he realised that "behaviourism was a monstrous perversion",⁽⁶⁷⁾ as Hebb (1960) has put it. This was so, so long as it allowed no space in its domain for terms like perception, thought, instinct, emotion, sentiment, volition, conation, cognition, interest, will, feeling, affection, purpose, hormé, goal, goal-guided behaviour, self-regulated activity, end-seeking acts, and so forth. To the behaviourist such terms have no appeal; for him it is "a mechanistic view", to use M.H. Marx' and W.A. Hillix's (1963)⁽⁶⁸⁾ expression, which really matters; whereas to a hormist, such as McDougall, the above words - some or all of them - coalesce and set the individual to reach an aim. Therefore, he disputed the mechanistic standpoint and rigorously discarded it. Instead he was "driven"⁽⁶⁹⁾, as he indicated, to the hormic position which seemed to

(67) Amer. Psychol., vol.15, op.cit., pp.735-745.

(68) Systems and Theories in Psychology., New York, McGraw-Hill, p.163.

(69) (1) An Introduction to Social Psychology, op.cit., p.458.

(11) "Autobiography" in : History of Psychology in Autobiography, ed. by C.Murchison, vol.I, New York, (1961), 1st published in 1930, p.215.

him as "the only alternative teleological theory of action". Apparently, this led him to postulate that, "where there is life there is mind",⁽⁷⁰⁾ an assumption the nature of which is reflected chiefly in the typical end-orientation indicative of life-processes. The key idea which underlies such an assumption is that the organisms, particularly the "highly developed" ones, are hormically urged to function. In the course of biological evolution, the individual's behaviour is differentiated into specialised forms which McDougall⁽⁷¹⁾ called "instincts". The individual therefore, is spontaneously activated from within, and organic nature is always endowed with an instinctive urge to live. The most fundamental construct of all is hormé or the will to live, and instinct is indispensable in any hormic activity which is purposeful; and to act purposefully is a sign of mind. As a hormist, he maintained that "the hormic Psychology imperatively requires recognition"⁽⁷²⁾ of instincts and instinctive action. This would imply the complexity of the activities involved and manifested. So McDougall's hormic theory, then, can prove defensible if, as he always assumes, that where there is life there is mind.

(70)An Introduction to Social Psychology, op.cit., p.462.

(71)"Autobiography": History of Psychology in Autobiography, vol.1, op.cit., pp.215-216.

(72)An Introduction to Social Psychology, op.cit., p.459.

It is interesting, however, to note that within the context of the hormic approach, McDougall distinguished between "conduct" and "behaviour". In a somewhat dogmatic manner, he stated, "my principal aim in writing this volume⁽⁷³⁾ was to improve the psychological foundations of the social sciences by deepening our understanding of the principles of human conduct".⁽⁷⁴⁾ The reason why conduct is specified rather than behaviour, is apt to be questioned. Answers, both implicit and explicit, can be deduced from the writings of McDougall himself. Conduct is the highest type of behaviour; and it is characteristic of "self-conscious and rational beings";⁽⁷⁵⁾ by this he meant ~~the~~ human beings. So he wanted human conduct, in its various spheres, to be "the topic with which all the social sciences are concerned".⁽⁷⁶⁾ In so distinguishing between conduct and behaviour, McDougall obviously wanted the former, with its more general connotations of rational behaving and traditions, to be restricted to the human groups and their social institutions.

(73) An Introduction to Social Psychology, (1908).

(74) Ibid, p. 303.

(75) Ibid, p. 304.

(76) Ibid, p. 304.

The latter, with its specific denotations, is meant to be limited to irrational beings. Both conduct and behaviour are underpinned by the doctrines of instincts, of volitions and, in the case of man, of sentiments in McDougall's system or what G.W. Allport⁽⁷⁷⁾ called "the master-sentiments", "the eminent traits", "the ruling passions", "the radix of life". The broad foundation, however, of both is the concept of hormone¹ which "permeates the whole of McDougall's writing so thoroughly",⁽⁷⁸⁾ as Smith has indicated. The essence of the hormic urge is that "to the question - why does a certain animal or man seek this or that goal?", the answer is "because it is his nature to do so",⁽⁷⁹⁾ - and a vast and complex aetiology deriving from genetics, evolutionary selection and neurophysiology could be invoked to illustrate this contention.

Such a question as the one just mentioned above seems to have inspired many a psychologist to think again and delve behind the real motivational promptings. Charles Taylor⁽⁸⁰⁾ (1964), for example, voiced almost exactly the same question which McDougall had already raised. "What, then, does it mean to say that human, or

(77) Personality, New York, Holt, (1937), Ch.12, see also by the same author, "The general and the unique in Psychological Science" J.Personality, vol.30, (1962), pp.405-422.

(78) Explanation of Human Behaviour, op.cit., p.122.

(79) An Introduction to Social Psychology, op.cit., p.458.

(80) The Explanation of Behaviour, London, Kegan Paul, p.5.

animal, behaviour is purposive ?" asked Taylor. In a sense, the question reflects the extension of McDougall's purposive, hormic impact which is not "a negative influence", as J.G.Beebe-Center⁽⁸¹⁾ (1952), of Harvard University, tended to think. The tone of the question, any way, indicates that Taylor appears not only to accept the hormic version, but he also appreciates its implications as a basis for the explanation of animate behaviour. Repudiating as inadequate the mechanistic "blind accident" interpretation of animal's and man's activities, Taylor preferred a teleological explanation. His specific statement is that, "the events productive of order in animate beings are to be explained not in terms of other unconnected antecedent conditions, but in terms of the very order which they produce".⁽⁸²⁾ The notion here is entirely in line with McDougall's hormic⁽⁸³⁾ argument that behaviour is to be explained by the nature of the end sought after, by the change in the whole situation, by the object involved and the relation of the behaving animal to all of these events. Central to Taylor's view, which brings it closer to McDougall's position, is that behaviour of the animate creatures ought to be explained purposively so long as the behavioural events "occur for the sake of the state of affairs which

(81) "Feeling and Emotion" Ch.6, in : Theoretical Foundations of Psychology, ed. by H.Helson and D.V.Nostrand, New York, p.265.

(82) op.cit., p.5.

(83) Introduction to Social Psychology, op.cit., p.416.

follows"; this makes the affinity to the hormic interpretation clearer and stronger, because it emphasises the rhythmic flow of the movements which hormicism is inclined to stress.

In his informative chapter on McDougall's system, Smith⁽⁸⁴⁾ (1960) has made various observations concerning hormicism. For example, regarding the assumption of hormé, he has stated that "it may be remarked that there is no way of coming to grips and definitely refuting it".⁽⁸⁵⁾ To support this observation, Smith has further added "and that there is a vast amount of evidence which is consistent with it".⁽⁸⁶⁾ In the wording of his own views, Smith seems to be cautious. Admitting that the concept of hormé cannot be rejected and there is sufficient evidence supporting it, yet he made certain assumptions which should be taken into account. Notable among Smith's precautions are these :⁽⁸⁷⁾ (1) the difference in response among the different species. (2) The innate types of response as well as the different varieties of effective stimuli should be accounted for. (3) The third difficulty is that the assumption of hormé may be taken as a "working hypothesis" suggesting certain interpretations which might be

(84) Chapter VI in : Explanation of Human Behaviour, op.cit.,

(85) ibid, p.178.

(86) ibid, p.178.

(87) ibid, pp.178-179.

untestable. (4) If the hormic concept is adopted as "a working hypothesis", it might obstruct "the pursuit of factors causally related to the behaviour observed". (5) Certain environmental conditions are also involved in eliciting behaviour, and not the intelligent instinct alone as the hormic doctrine usually maintains.

It seems quite obvious that there is always a difficulty lurking somewhere in identifying ~~the~~ innately instinctive ~~X~~ behaviour from ~~the~~ learnt modes of response which are the result of ~~X~~ environmental operations. W.H. Thorpe⁽⁸⁸⁾ (1963), R.A. Hinde⁽⁸⁹⁾ (1966), and others, for example, tend to emphasise that the determinants of the organism's actions stem from two inextricable sources, namely, ~~the~~ inherited factors and ~~the~~ environmental influences. Both the ~~X~~ genetic structures and the inevitable surroundings are the chief determinants of the activities performed. The outcome, however, depends on both "nature and nurture", to borrow an expression from Hinde. Yet, as always has been, the question still remains that it must be clarified as to how much of the behaviour is a resultant of the environment and how much of it is genetically inherited. McDougall, in his 'marks of behaviour'⁺ mentioned the 'try, try again' nature of

(88) Learning and Instinct in Animals, London, Methuen, op.cit.,

(89) Animal Behaviour, New York, McGraw-Hill, see especially Chapter 19.

+ An outline of Psychology, op.cit., pp. 44ff.

animal behaviour. Without this, no specific stimuli could be effective and no opportunity for learning or modification exploited. Without some assumption like hormé of the intrinsically purposive nature of animal behaviour, there is by objective human examination, a gap.

Within the frame of hormé, McDougall tried to distinguish between hormic activity and hormic theory. The former he treated as "an energy manifestation" ; the latter he considered as a source liberating "energy potential or latent in chemical form in the tissues".⁽⁹⁰⁾ Such a distinction appears to be a repetition of an oft-made differentiation between instinct as such and instinctive action ; instinct as an activator and instinctive activity as the outcome display. In using the adjectives "hormic" and "instinctive" activities, McDougall may be judged as to have safeguarded his position. In other words, such adjectives appear not to commit anybody to any special explanation as to whether they are inborn or acquired. Yet the notion underlying them is certainly a unitary innate process. There are still, however, some psychologists

(91) (i) Psycho-Analysis and Social Psychology, London, Methuen, 2nd. ed., (1937), p.113.

(ii) "The State of the Brain during Hypnosis" Brain, vol.XXXI, part 2, (1908), p.248.

(iii) An outline of Abnormal Psychology, op.cit., p.19.

(iv) An Introduction to Social Psychology, op.cit., p.460.

such as, for instance, Dalbir Bindra (1959), who wishes "as ✓
completely to avoid the connotations of the term 'instinctive'" and
to use instead the phrase "species-specific behaviour".⁽⁹¹⁾

In his distinction, at any rate, McDougall tended to stay within the evolutionary continuity. In such a continuity, the hormic tendency is best presented as an expansion of life. McDougall appears to have endeavoured throughout his arguments to stress a particular theme, namely, hormé can never well be comprehended until a thorough investigation of evolution is scanned. Its nature can be revealed only in the ends toward which it steadily yet persistently moves. In such a rhythmic continuation, "Some trace of mental nature and activity"⁽⁹²⁾ can be available. McDougall also seems to have tried to emphasise that the hormic theory is broad in dimensions. For example, he tended to explain that it is hospitable to any information concerning "transformations that physiological chemistry"⁽⁹³⁾ can provide. Yet it sticks to "facts" and rejects "to be bound by current hypotheses of physical science".⁽⁹⁴⁾

(91) Motivation : A Systematic Reinterpretation, New York, Ronald Press Co., p.9.

(92) An Introduction to Social Psychology, op.cit., p.462.

(93) ibid, p.460.

(94) ibid, pp.460-461.

The notion implied in such words seems to be threefold: (1) to stress further the distinction between the hormic activity and the hormic theory itself. (2) to preclude any mechanistic view that might occur to the readers of the hormic theory. (3) to create the impression that the concept of hormé is really the span of life as a whole.

Yet the "facts", alluded to above, are meant to be the descriptive marks of behaviour and compatible with them. Such marks were already (Ch.V above) referred to, although now McDougall tried to word them differently. It may only be essential to indicate at the moment that those behavioural characteristics imply that mental activity within the context of the hormic theory involves (a) cognitive tendency, or to use a recent term by W.J. McGuire⁽⁹⁵⁾ (1966) "cognitive consistency", where the word "consistency" is defined as a "motive". An affinity with the same usage can be found in J.S. Brown⁽⁹⁶⁾ (1961), D.P. Crowne and D. Marlowe⁽⁹⁷⁾ (1964), C.N. Cofer and M.H. Appleby⁽⁹⁸⁾ (1965), and in

(95) "The Current States of Cognitive Consistency Theories" in : Cognitive Consistency, ed. by Feldman, Shel, New York, Academic Press, p.33.

(96) The Motivation of Behaviour, New York, McGraw-Hill.

(97) The Approval Motive : Studies in Evaluative Dependence, New York, Wiley.

(98) Motivation : Theory and Research, New York, Wiley.

others' works. (b) It indicates that conation is initiated and controlled by cognition itself. (c) It also involves accumulating experience, whether pleasant or painful. These three fundamental aspects are inseparable in reality.⁽⁹⁹⁾ Still, however, the question to be asked is how to reconcile mind and its ideals with instincts. Explanations can be traced in the arguments of McDougall⁽¹⁰⁰⁾ and of others, particularly A.G. Tansley⁽¹⁰¹⁾ (1921,1952). Tansley's contentions are, in summary, (1) the inherited instincts of man form the foundation on which the whole of his mental activity is based.

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- (99) (1) McDougall, William, "Mental Evolution" in : Evolution in the Light of Modern Knowledge, a collection work, London, (1925), p.340.
- (11) _____, An Introduction to Social Psychology, op.cit., p.462.
- (100) (1) Psychology: The Study of Behaviour, (1912), op.cit., p.82.
- (11) The Energies of Men, (1932), op.cit., pp.7,170,374.
- (111) "Of the words Character and Personality" in : Character and Personality, vol.I, (1932), pp.3-16.
- (101) (1) The New Psychology and its Relation to Life, London, George Allen, 1st published in 1920; especially chapter VI "The contents of the Mind".
- (11) Mind and Life, London, George Allen, (1952), pp.3-4, 22ff.

(2) There emerge mental complexes which determine the form of the working of instincts. (3) The resulting complications which the mind manifests are related to the interactions of the displayed complexes. (4) The psychical energy of the mind is closely linked with the instincts through conative channels. By "mental" McDougall meant both the physical and the psychical aspects. It is intended to comprise all processes and structures involved in the intelligent purposive functions of man and animals. "Psychic" or "Psychical" processes, on the other hand, are subjective events, and are "natural occurrences"⁽¹⁰²⁾ which are impossible to ignore. Yet McDougall's oft-repeated view is that it is only in abstract that a distinction can be made between one mental process and another.

2. The Hormic Theory in Relation to Some Other Motivational Observations.

In the plethora of motivational theories,⁽¹⁰³⁾ there have

(102) The Energies of Men, op.cit., p.7, footnote.

(103) See for example:

- (i) Smith, F.V., Explanation of Human Behaviour, op.cit., (1960a), especially, parts II & III, Chapters VI-XIV.
- (ii) Woodworth, R.S., Contemporary Schools of Psychology, 9th ed. (1965), London, Methuen, op.cit.,
- (iii) Hilgard, E.R., Theories of Learning, 2nd ed., New York, Appleton-Century (1956).
- (iv) McGeoch, J.A., The Psychology of Human Learning, New York, Longmans, 2nd ed. (1958).
- (v) Marx, M.H., and Hillix, W.A., Systems and Theories in Psychology, New York, McGraw-Hill, (1963), op.cit.
- (vi) Wolman, Benjamin, B., Contemporary Theories and Systems

been advanced some crucial discrepancies. The nature of the controversies raised is largely due to the enormous field of behavioural studies which are increasing rapidly. The hormic theory, for example, being based on instincts mainly, insists that behaviour ought to be explained in terms of the purposive ends that the organism seeks. In its "naturalistic level" (C.Taylor,⁽¹⁰⁴⁾ 1964), are comprised a large number of instincts or purposes to account for the different types of activities manifested by man and the animals alike. While some S-R theorists, such as Watson and Kuo, treat instincts as convenient fictions, others, such as Allport and Tolman, regard them as real or inferred facts. Again, while the cognitive psychologists, particularly McDougall and Tolman, concentrate on the more basically complex factors motivating behaviour, the S-R experimentalists, such as B.F. Skinner⁽¹⁰⁵⁾ (1957), for example, emphasise situations where no excessive difficulties are created by the identification of stimuli and responses. The disadvantage of such a trend of thinking is that the organism might no longer be thought of as an organism proper; it might be treated as a machine

(104) The Explanation of Behaviour, op.cit., p.221.

(105) Verbal Behaviour, New York, Appleton - Century.

being operated externally, or to use a term from G. Seth⁽¹⁰⁶⁾ (1968), it might be conceptualised "as a homunculus". In point of fact, Skinner himself declares that he is against "physiologising" in Psychology on the ground, as he believes, that this is not prerequisite to the development of methods for understanding behaviour. His position, however, has been designated as a "psychology of the empty organism"⁽¹⁰⁷⁾ (R. Borger and A.E.M. Seabourne, 1966, p.77), whereas the solid fact is that "there is a reason for everything that an animal does"⁽¹⁰⁸⁾ (C.J. Herrick, 1956, p.18), however remote and vague the goal at which the creature is aiming; and it does so, because it is exercising its own nature as an organism. So in the S-R experimentalist's work, the insightful behaviour seems to be neglected or ignored; to quote Seth⁽¹⁰⁹⁾ (1968, p.150) again, "Much of the work of the experimentalists, even when - or, perhaps, especially when - it is conducted on the convenient rat, appears to have lost sight of the living organism". Indeed, before any operant conditioning can begin, a behavioural tendency must exist.

(106) "Dissonance and Stress in the Teaching of Psychology: Some Reflections of an Accidental Psychologist", Presidential Address delivered at the Annual Conference of the British Psychological Society at Sheffield, Bull. of British Psychological Society, vol.21, No.72, p.150.

(107) The Psychology of Learning, Pelican ed.

(108) The Evolution of Human Behaviour, Austin, University of Texas Press.

(109) Presidential Address, Bull. of Brit. Psychol. Society, vol.21, op.cit.

Apparently, Seth (1968) has expressed his concern particularly about the work of those experimentalists who tend to deny the organism its real vitality, its internally voluntary activating force; of such experimentalists, Tolman surely is excluded chiefly because, in his experiments on rats, he delved for the motivating factors within the animal, and he was mostly concerned about the development of cognition which would eventually lead to purposeful results. His position, which is discussed below, falls within the biological interpretation which Seth⁽¹¹⁰⁾ (1968) has stressed and is generally advocated. In this connection, it can be said that, evidently, when McDougall formulated his scientific theory of Instincts he had in view the biological and evolutionary continuity of the organismic world as a whole. He realised that behaviour develops through what G.E. Coghill (1929) called "the progressive expansion of a perfectly integrated total pattern".⁽¹¹¹⁾ The mechanisms of behavioural patterns, conceived as a gestalt, are in reality a sort of growth; they grow according to the organism's own intrinsic characteristics; it is an intergration which can be X sought in the biologically inherited instinct. This is so, because X

(110) ibid, see especially, pp. 147, 150.

(111) Anatomy and the Problem of Behaviour, London, Cambridge University Press, p. 38.

instinct includes, both potentially and actually, various grades of co-ordinated acts ranging from tropism and taxis up to the most elaborately complicated, innate performances of birds, mammals and man. As a corollary to this, behaviour can be interpreted on firmly scientific grounds as "the expansion of a unitary system within which partial systems arise as dependencies under its jurisdiction"⁽¹¹²⁾ (Coghill, 1929). This certainly would imply the rationalisation of "the phenomena of behaviour as treated under the various accepted categories" (Coghill,⁽¹¹³⁾ 1929, pp.642-43). The whole significance of this, however, is that the totally integrated pattern of behaviour predominantly⁽¹¹⁴⁾ exists from the start and is maintained throughout the individual's life; and the development of behaviour primarily through the growth of the entire pattern is indicative of the organism's integration as a whole. It indicates, too, the essential function of the nervous system, the development of the functional neurones in particular. This can be taken as of great advantage to McDougall's position. By introducing and advocating

(112) ibid, pp. 642-643.

(113) See also by the same author:
"The Genetic Interrelation of Instinctive Behaviour and Reflexes", Psych.Rev., vol.37, (1930), pp.264-266.

(114) ibid.

instincts , McDougall consolidated the foundations which he laid down for motivational Psychology; for instincts had been and still have been used as guides by other investigators; they are tested, closely scrutinized, widely discussed and their validity is now no longer in doubt, so that they have become part and parcel of present-day scientific Psychology, both experimental and observational. Among many other things, it is this which in fact renders the topic of instincts a worthwhile one, so long as it comprehends innumerable situations to be treated and allows for the prediction of future events to be made. In fact, "Basic behaviour patterns in man (and animals) are indeed more dependent on our inherited higher nervous systems than we sometimes care to admit"⁽¹¹⁵⁾ (W.Sargant : 1965, p.108) - and the rapidly increasing fund of observations from the ethologists would appear to support this.

The value of instincts as chief activators of behaviour is now widely recognised. To Allport⁽¹¹⁶⁾ (1946), in particular, McDougall's purposive and hormic doctrine is indispensable. Allport explicitly pointed out that he was more hospitable to McDougall's scheme of instincts than to Freud's instincts which "were less

(115) Battle for the Mind, London, Pan Books Ltd., 6th Printing; 1st published in 1957.

(116) "Geneticism Versus Ego-Structure in Theories of Personality", Symposium on Personality in : B.J.Ed.Psych., vol.XVI, part 2, p.58.

differentiated and less numerous".⁽¹¹⁷⁾ This certainly means that McDougall's doctrine of instincts is broader in denotation, so that he could, to quote Allport again, "at least call upon the lasting energies of the parental instinct, self-assertion, and submission to account for"⁽¹¹⁸⁾ a wide range of complex and evolving interests. This also seems to be why Allport preferred McDougall's instincts to what he called the "concatenated reflexes"⁽¹¹⁹⁾ and "the crude theories"⁽¹²⁰⁾ upon which these reflexes are built. Such reflexes seemed to Allport as "totally unable to provide any intelligible conception"⁽¹²¹⁾ of the causation of behaviour.

As Smith⁽¹²²⁾ (1968b) has observed, Allport "saw human behaviour within the whole context of tendencies that were innate and those acquired within a social context". In Allport's system, the behavioural, innate dispositions, which Smith (1960a⁽¹²³⁾ 1968b⁽¹²⁴⁾),

(117) ibid, p.58.

(118, 119). (1) ibid, p.58, see also, pp.57,59 and Allport's papers in :

(11) Amer.J.Psych., vol.50, (1937), pp.141-156.

(111) Psych.Rev., vol.47, (1940), pp. 540ff.

(120) ibid, p.58.

(121) ibid, p.58.

(122) "Gordon Willard Allport (1897-1967)," Obituary Notice in B.J.Psych., vol.59, part 2, p.99.

(123) Explanation of Human Behaviour, op.cit., chapter VII.

(124) Brit. J. Psych., vol.59, op.cit., pp.99ff.

has discussed are the "traits" whose nature in respect of neurological underpinning is similar to that of McDougall's instinct, although many features of the trait were said to be acquired. In Allport's position, to cite Smith⁽¹²⁵⁾ (1968b) again, "traits were held to be unique to the pattern of the personality of each individual". Smith's statement here is quite compatible with that of Allport⁽¹²⁶⁾ (1937) who could indicate that, "behind all the confusions of terms, behind the disagreement of judges and apart from errors and failures of empirical observations, there are none the less bona fide mental structures, in each personality that account for the consistency of its behaviour".

In Smith's and Allport's statements cited above, there is a clear indication that behaviour, both human and animal, is underpinned by innate factors which are structural in character. It can be said that Allport had much in common with McDougall and was inclined to accept McDougall's hormic conceptions. Yet it should also be indicated now that the hormic connotations, as delineated by McDougall, are broader and deeper than Allport's "idiographic" approach. For example, in McDougall's treatment, both evolutionary continuity and the individual's status in society are considered;

(125) ibid, p.101.

(126) Personality: A Psychological Interpretation, New York, Holt, p.295.

whereas Allport's specific concern was limited to dealing with human behaviour only. Another difference perhaps is that in his approach, McDougall tended to be more neurologically orientated, while Allport's chief task was based mainly upon close observations of general phenomena relating to individuality. Both authors, however, deeply believed and consistently held that underlying all behavioural repertoire were innate tendencies which are mental, concrete, psycho-physical in nature and purposive in function.

McDougall's hormic assumptions of behaviour were strongly shared by E.C.Tolman (1886-1961). Indeed, there are aspects in his position which cast considerable light on his attitude towards instinct and purposivism. Rejecting⁽¹²⁷⁾ the mechanistic explanation, Tolman believed that an instinct could better be understood on the basis of teleological⁽¹²⁸⁾ principles. Outstandingly important in his approach was his emphasis throughout that living organisms set up their "expectations", and that they are capable of inventive learning. He consistently maintained such a view which is in keeping with his purposive proclivity.

(127) Tolman, E.C., "Principles of Purposive Behaviour", Psychology: A Study of Science, vol.2, (1959), New York, McGraw-Hill, ed.by Koch, S., p.94.

(128) (1) "Instinct and Purpose" Psych.Rev., vol.27,(1920), pp.217-233.

(11) "The Nature of Instinct" Psych.Bull., vol.20, (1923), pp.200-16.

(111) "Purpose and Cognition" Psych.Rev., vol.32, (1925), pp.285-297.

McDougall's mentalistically purposive explanation of behaviour found its way through to Tolman's specific observations.⁽¹²⁹⁾ As "a rat psychologist", as he described himself, Tolman spent a long time experimenting on rats - rats with purpose, because they were in a designed maze and they purposefully sought food.⁽¹³⁰⁾ His formula of behaviour or as he called it "tentative schema",⁽¹³¹⁾ is rather complicated. In its simplest form it means that behaviour is a function of the situation in which it happens and other antecedent causes. Between the causes and the consequents there come what he called "intervening variables". Some of these "intervening variables" are cognitive in character and serve as determiners of the activity. Others are "demand" variables and serve as motives. The whole issue, however, is that Tolman's teleological purposivism is an innately motivated scheme.

(129) "A Behaviouristic View of Purpose", J.Philos, vol.XVIII, (1921).

(130) (i) "Cognitive maps in Rats and Men", Psychological Rev., vol.55, (1948), pp.189-208.

(ii) "The Determiners of Behaviour at A Choice Point", Psych. Rev., vol.45, (1938), pp.1-41.

(iii) "Hypotheses in Rats" Psych.Rev., vol.39, (1932), pp.516-532; see also : the author's Purposive Behaviour in Animals and Men, Univ.of California Press, (1932), pp.19, 258.

(131) Collected Papers in Psychology, Univ. of California Press, (1951), p.1.

Tolman's purposive contentions F.V. Smith (1960a) has catalogued under what he calls "guiding principles".⁽¹³²⁾ Three such principles are : "(1) The inescapable purposive and cognitive features of behaviour". "(11) The data which the purposive behaviour can use". "(111) The Principle of Docility".⁽¹³³⁾ The latter perhaps needs to be explained. In Smith's own words, it means that "many of the inferred determinants of behaviour, within the environment, such as 'discriminanda', 'means-end-relationships' and 'sign-gestalt expectations' are appropriate only in those cases where the organism in a sense accepts the environment and behaves purposively within it".⁽¹³⁴⁾

It may now be indicated that the concept of hormé is rather accommodative. Within its context it allows for other types of behaviour to be explained. In Tolman's system, for instance, the rat's trial-and-error behaviour in exploring a maze-once the food is found in the food-box-is visibly goal-seeking activity. A series of trials is demonstrated until the end is reached. If one route does not lead to the goal with the food, other routes would be tried, so that the aim could be achieved. The adoption of the shortest available path in the alley shows that in its learning and

(132) Explanation of Human Behaviour, op.cit., p.426.

(133) ibid, pp. 426-428.

(134) ibid, p. 428.

behaviour, the animal is means-end-oriented; its behaviour is purposive in character. Tolman's approach may probably be criticised as being based mainly on observations carried out exclusively on rats,* hence it has no significance to human life. A convincing answer, at any rate, can be found in Smith's (1960a) comprehensive treatment of Tolman's purposive scheme wherein he stated that, "The system has some relationship to human behaviour as many studies in economics and sociology have demonstrated".⁽¹³⁵⁾ Tolman, it should be remembered, began with the basic assumption that, "behaviour, as behaviour, that is as molar, is purposive and is cognitive. These purposes and cognitions are of its immediate descriptive warp and woof. It, no doubt, is strictly and completely dependent upon an underlying manifold of physics and chemistry, but initially and as a matter of first identification, behaviour as behaviour reeks of purpose and cognition".⁽¹³⁶⁾ He accepted in effect McDougall's basic hormic assumption. He merely tried, with remarkable ingenuity to conduct his description of behaviour in strictly behaviouristic terms.

* Tolman dedicated his major work, Purposive Behaviour in Animals and Men (1932), New York, Appleton-Century, to the rat, Mus Norvegicus Albinus.

(135) Explanation of Human Behaviour, op.cit., p.445.

(136) Purposive Behaviour in Animals and Men, op.cit., p.12.

Within the hormic domain, the concept of drive has a role vital to the explanation of behaviour. Evidence shows that this concept is a "child of the instinct affair" (R.S.Peters:⁽¹³⁷⁾ 1953; D. Bindra:⁽¹³⁸⁾ 1959). If this is so, "drive" may have the power of directing the behaviour and guiding it, as the instinct does. J.S.Brown⁽¹³⁹⁾ (1953), for example, has indicated that the functions that can be attributed to drive are those of "energizing" behaviour, of stabilising the movements, of increasing the activity to meet a situation. This however, may suggest that something is being involuntarily pushed or driven. Either "drives" must have full directional properties in themselves or the organism must be prepared to be aware of certain internal states and capable of doing something effective about them within its environment. The concept of 'drive' is thus lacking in the perceptual and conative features associated with McDougall's concept of instinct.

McDougall's⁽¹⁴⁰⁾ own view is (analogically) that "all the various machines (the instincts) are driven by power transmitted from

(137) Brett's History of Psychology, op.cit., pp.665-666.

(138) Motivation, op.cit., p.9.

(139) "Problems presented by the concept of Acquired Drives" Symposium: Current Theory and Research in Motivation, Lincoln University of Nebraska.

(140) (1) "Motives in the light of Recent Discussions" Mind, N.S. vol.XXIX, No.115, (1920), p.277.

(ii) "The Energies of Men, op.cit., p.50.

a central power-station where the current from the electric mains enters the factory and is converted into mechanical power". Woodworth⁽¹⁴¹⁾ (1922), on the other hand, although he agreed to such a metaphor, thought that in addition to the central and powerful dynamos "every machine has its own supplementary dynamo in which drive is generated", as McDougall spoke for him. By the "power house", both authors meant "mind" as a "mechanism"⁽¹⁴²⁾ liberating a stream of energy. McDougall was apparently agreeable to both explanations discussed here; his question⁽¹⁴³⁾ "Does each propensity generate its own current ? Or is there a central power-house ?" clearly indicates that he favoured both views. In either case, the common factor consists in the sum total of available conative energy. He conceived of energy as both physical and conative in character. To him, the whole nervous system is conceived as forming a single interconnected set of conducting paths. So neurologically speaking, nervous energy liberated in any part is capable of diffusing to any other portion of the nervous system.

(141) Dynamic Psychology, Columbia University Press, 1st published in 1918.

(142) (i) Woodworth, R.S., Dynamic Psychology, op.cit., p.36.

(11) McDougall, Wm., Mind, N.S., vol.XXIX, (1920), op.cit., pp. 268ff.

(111) _____, An outline of Psychology, op.cit., pp.114-118.

(143) The Energies of Men, op.cit., p.50.

However, agreeing in principle with McDougall, Woodworth could exercise himself from being committed to any mechanistic view. His strong arguments in favour of a dynamic psychology brought his system closer to McDougall's hormic position. Even so, McDougall would not have been willing to equate instinct with drive. Perhaps he would have been disposed to say, for example, that a particular situation may instigate the innate predisposition (the instinct) evoking from it a conation, an impulse or a drive. So it is hard to think that he could have intended to employ drive exactly in the sense of instinct at all.

Whether the drive contributes to the guidance and regulation of behaviour, to activating behaviour, or to both, Smith seems to have his own view. Discussing "drive" within the context of the hormic theory, Smith⁽¹⁴⁴⁾ (1960a) has maintained that the use of the concept of drive assumes that "the organism is in some way aware of particular internal states and is capable of making some effective adaptation". Smith has conjoined this statement by adding that "Many so-called 'drive-states' are known to involve particular neural centres and it has been shown that in some species, some innate features of organisation of the perceptual processes are

(144) Explanation of Human Behaviour, op.cit., p.179.

relevant to the completion or consummation of 'drive' states".⁽¹⁴⁵⁾ Indeed, such views, particularly those related to perceptual powers, Smith has been able to verify in some species by means of experiments on chicks and lambs. Smith⁽¹⁴⁶⁾ (1962) has found that newly hatched chicks show the ability of responding to a variety of moving objects and visual patterns having specific characteristics. He has shown that not all chickens, however, are equally attracted by the objects displayed; the conspicuous objects had more effect on the chickens than the less variegated ones. Lambs, by instinct, will place their heads under any object which has a protruding ledge or surface at about the height of their own shoulder. In other words, 'drives' to be effective as a concept need something more than the mere notion of impulsion.

All the above mentioned views relate to behaviour. Yet their arguments diverge in regard to the implications and the nature of the behavioural processes. An innate neural structure is stressed in McDougall's hormic theme. In this scheme, the action is associated with the inherited, unitary instincts with their emotional

(145) Explanation of Human Behaviour, op.cit., p.179.

(146) Sym. Zool. Soc., London, vol.8, op.cit., pp. 171-191.

see also:

Smith, F.V. ed. Bird, M.W., (1964a,b), Anim.Beh., vol.12, op.cit., pp.252-258, 259-263.

aspect, and the activity will persist until an end is reached. In Allport's system it is trait or traits which are basic to motivational acts. They are supposed to be biophysical units and like instincts, they are neurophysiological in character and have the capacity of a psychical nature. Although "drive" may suggest that something or somebody is being pushed in a particular direction, it is often used in the sense of a mechanism which would bring it nearer to the biological needs of the organism. It may be employed in the sense of energizing purposively. In Tolman's behavioural teleology, behaviour is to be interpreted in terms of its goals. On this view, behaviour is characteristically purposive, and can be understood in terms of its final achievements. According to the behaviouristic point of view, behaviour is merely an external process. In the hormic conception teleology, heredity, innate dispositions and tendencies are emphasised; in S-R theories, the stress is placed upon environment. Yet in both systems, there are common features namely, a concern about neuro-physiological bases and acquired adjustments.

3. Salient Features of the Hormic Theory.

Confident of his views, as he seemed to be, McDougall gave various reasons as to why the hormic theory is advantageous

psychologically. In summary, these reasons⁽¹⁴⁷⁾ are : (1) The hormic theory accounts for a defensible story of organic, evolutionary continuity. (2) Although the hormic theory persistently explains that experience consists of different aspects, these aspects are inseparable and must be treated as an integrated whole or unit. (3) In the hormic theory, the striving capacities of any species are conceived as being differentiated out of "a primal urge to live". (4) The theory allows for the fact that only in the human being, does cognitive development attain certain levels so that an anticipation of remote goals becomes foreseeable. (5) It displays a whole and systematic psychology on the ground of recognising the wholeness of the organised mind of the adult as "a structure elaborated in the service of the hormic urge to more and fuller life". (6) In the hormic theory could be found a consistent account and an intelligible interpretation of human valuations. (7) It notes that the development of instinctive tendencies is an important feature of each phase throughout the evolutionary scale of the animal life. (8) It sponsors the doctrine of the sentiments, the distinctive system of the developed mind. (9) It tends to find similarities between the human activities and those fulfilled by different animals. (10) The hormic theory is flexible enough to assimilate all that is sound and useful in "the newer schools of psychology".

(147) An Introduction to Social Psychology, op.cit., pp.478-488.

Other reasons are mentioned by McDougall but have previously been omitted largely because (i) they are repetitive in character, (ii) some have been amalgamated with those indicated above, (iii) some were mentioned by him but no satisfactory explanation was offered in their support. For example, neo-Darwinism was criticised on the ground of the difficulties involved in it, yet no suggestion was made by him as to how those difficulties could be overcome by the hormic theory. Apart from that, McDougall would appear to be justified in his claim that, "(the) Catholicity, (the) power of comprehensive assimilation of new truth from widely differing systems of psychological thinking is, perhaps, the best proof of the fundamental rightness of the hormic Psychology".⁽¹⁴⁸⁾

4. Discussion and some Remarks.

What McDougall and Nunn termed hormic psychology is, in all its forms, naturally expressed in terms of conative activity. According to the hormic principle which McDougall emphatically stressed, all human and animal performances are prompted and sustained by impulses which spring from deeply-rooted innate tendencies. Within the hormic theory, certain points seem to be constantly emphasised. First, an attempt is always being made to

(148) An Introduction to Social Psychology, op.cit., p.488.

discover consistent manifestations of its own nature. Secondly, the innate and cognitive elements are persistently stressed. Thirdly, it tries to assimilate other motivational views, so long as those views are not rigidly mechanistic.

It may be argued, however, that the assumption of hormé cannot be taken as a complete alternative to other theories of behaviour. It appears that it embodies some features which present it as a theory which can offer wider explanations than other theories. The hormic theory tends to focus on the consequences of behaviour and its effects. In the hormic concept, continuity in experience as an essential factor, is always emphasised. Basic features, such as, for example, insight, foresight are stressed as crucial. Moreover, if, as D.O. Hebb (1960) has pointed out, "The self is neither mythical nor mystical, but a complex mental process",⁽¹⁴⁹⁾ then McDougall could claim at least partial success, because this was part of his hormic thesis.

The concept of hormé, however, can be taken as a clarifying guide, offering an explanation of many psychological issues and events, even if machines can be programmed by a teleological activity of man, to achieve a desired end-result. Striving towards an end is characteristic of the hormic activity which in no way can be compared with the mechanistic view; it could be

(149) Amer. Psychol., vol.15, op.cit., pp.735-745.

said with some certainty, however, that even those who reject McDougall's hormic arguments, tend to maintain his emphasis of such terms as: "goal", "wish", "desire", "guided-behaviour", "regulated-activity", and so on.

It may well be claimed, too, when applied to the facts and structure of mind, that the hormic theory does work. In it there can be provided an account of any behaviour that may be required of the individual in his environment. In hormic Psychology, for example, there can be found an answer to the successive stages of psychological growth as the impulsive nature of the child passes over into the disciplined character of the mature adult. In hormic Psychology, again, it is equally stressed that man can aspire towards lofty chosen ends, maintaining at the same time the highly spiritual tradition. In short, and to quote Smith (1960a), to consider McDougall's hormic system is "a convenient method of becoming acquainted with many of the problems involved in the explanation of behaviour".⁽¹⁵⁰⁾ To this observation, Smith has added that "in the light of more recent work, McDougall's position still remains plausible".⁽¹⁵¹⁾ His basic concept of distinctive instincts, each mediated by distinguishable "neurological correlates", has now

(150) Explanation of Human Behaviour, op.cit., p.120.

(151) ibid, p.120.

objective, experimental support and as to the intrinsically purposive nature of all animal behaviour, even the most fanatical empiricist would be obliged to concede, on the basis of objective observations of behaviour, that the balance of probability was heavily in favour of hormic assumptions.

CHAPTER VIII.

FURTHER DEFENCE OF THE HORMIC THEORY.

1. Basic Principles For A Theory Of Social Psychology.

"What was McDougall trying to do ?" This question, which Smith⁽¹⁾ (1960a) has raised, is of wider implications. Amplifying his observations on McDougall's system, Smith has stated that "It is submitted that McDougall was trying to provide Psychology with an account of the innate data of animal nature which, in the manner indicated by Freud, could form the basis of a system in which the contribution of experience would also be reflected".⁽²⁾ In his efforts, McDougall appeared to have been aided by the asset of a rich and relevant background; and in his attempts, he seemed to have been prompted, to quote Smith again, by "certain sincere philosophical convictions, which were on the whole consistent with the observations that he was able to make".⁽³⁾

In Smith's statements above, at least two points require consideration here : (a) "the innate data of animal nature" and (b) "philosophical convictions" supporting the data obtained. By

(1) Explanation of Human Behaviour, op.cit., p.121.

(2) ibid, p.121, see also by the same author :

"Social Theory and The Basic Motives", Presidential Address in Bulletin of British Psychological Society, September (1960c), pp. 4ff.

(3) Explanation of Human Behaviour, op.cit., p.121.

"animal nature" Smith seems to have meant both man and the other animals. If this is what he meant, and it appears so, his views then correctly reflect McDougall's notion of abolishing any dichotomy between man and the other creatures. Even so, McDougall at times intended to talk about human conduct, rather than behaviour, although he mostly used both synonymously. Whenever it happened that he employed conduct, he discussed it in terms of behavioural patterns, with the emphasis of course on hormic purpose as a central feature. Therefore (a) and (b) are intimately associated and Smith has aptly presented them in one intact picture.

From the beginning, McDougall took account of criteria when he thought they would help solve the problem of human behaviour and the question of mental processes. Throughout his writings questions like the following are often encountered :

- (1) whether the particular pattern of behaviour appears early in life and whether it is affected by training. This perhaps Smith has in view when he brought into the picture "experience" along with "the innate data" in his above statement.
- (2) Whether behaviour is persistent in a particular species and whether there are certain organs concerned with the purposive instincts.
- (3) Whether there exists any similarity in terms of behavioural patterns between man and the higher primates.
- (4) If behaviour persists when the individual creature is denied the satisfaction of the desired goal.

Such questions as these tend to suggest that in its preferential attention, the creature is predestined to strive for an end without the behaviour by which he would thrive being already prescribed in detail. Certain notions may underlie such a view: (1) the neurophysiological and psychical conceptions of the innate instincts as hormonal urges; (1.1) the teleological nature of instinct as observed by the naturalist can find support by the laboratory psychologist or ethologist (P.M.Driver : 1968⁽⁴⁾; S.S. Kety : 1968⁽⁵⁾); (1.1.1) a hasty mechanistic explanation is entirely incompatible with the plasticity of an innate behaviour. This is so, largely because the innate mechanisms in man and many animals are flexible; they are not completely defined either in regard to what the cognitive side will dictate or what the conative aspect would determine. To say that man is urged by inborn tendencies, means that he can be easily taught to attend to certain things and his behaviour is easily modified by experience. McDougall's thorough and convincing arguments have indicated that behavioural patterns discernible in the animal kingdom are paralleled by similar instincts underlying all human activities.

(4) "An ethological Approach to the Problem of Mind", The Mind : Biological Approach to its functions, ed. by W.C.Corning and M.Balaban, New York, Wiley, pp.280-281.

(5) "A Biologist Examines the Mind and Behaviour" The Mind : Biological Approach to its functions, op.cit., pp.305-3-8.

Yet the position seems rather complicated so that "unfortunately", as Lorenz⁽⁶⁾ has written (1968), "the working structure of the instinctive and culturally acquired patterns of behaviour which make the social life of man seems to be one of the most complicated systems" known on earth. Approaches to the question range widely, and any attempt to describe and explain the focal nature of the human activities must encompass the whole forces that initiate and sustain the individual's behaviour in a particular direction. At the present it is widely maintained by writers, such as J.S.Bruner⁽⁷⁾ (1958,1961), F.V.Smith⁽⁸⁾ (1960a,1960b, 1960c,1962,1965,1968a), A.R.Lindesmith and A.L.Strauss⁽⁹⁾ (1956), T.M.Newcomb, R.H.Turner and P.E.Converse (1965),⁽¹⁰⁾ H.Proshansky and B.Seidenberg (1966)⁽¹¹⁾ and others, that the "fundamental nature"

(6) On Aggression, University paperback ed., p.x1.

(7) (i) (1958) "Social Psychology and Perception" in: Readings in Social Psychology, ed. by E.E.Maccoby, T.M.Newcomb, and E.L.Hartley, London, Methuen, pp.85-94.

(11)(1961) Preface to McDougall's Body and Mind, Beacon paperback ed., pp.vii-xxvi.

(8) op.cit.,

(9) Social Psychology, New York, Holt, pp.274-454-5.

(10) Social Psychology, New York, Holt, pp.4, 273.

(11) (editors), Basic Studies in Social Psychology, New York, Holt, pp. 28, 235.

of all human beings is to be looked for in "all complex social motives"⁽¹²⁾ which are "at root, inherited impulses to action". Along with this view, other terms like "cultural relativism"⁽¹³⁾ are sometimes used; this may mean one of two things: It could mean that social phenomena are so complicated and human conduct is a reflection of such a complex, so that it is not sufficient to explain human motivation in terms of instincts alone. The other meaning may be attached to such an expression is that it may prefer the abolition of the instinctual foundation of social motivation.

True, the purposive, goal-oriented quality of behaviour was discussed by other interested authors such as Allport, Woodworth, Cattell, Burt and others. Yet it was McDougall who emphasised the issue in terms of specific instincts. To him, their derivatives and vicissitudes were unique. Derivatives are represented by emotions, sentiments, tastes, sympathy (both active and passive), suggestion and imitation which McDougall called "conservative agency"⁽¹⁴⁾ and has now come to be realised as having

(12) ibid, pp. 28ff.

(13) ibid, p. 235.

(14) (1) An Introduction to Social Psychology, op.cit., p.283.

(11) "Organisation of the effective Life", Acta Psychologica, vol.II, (1937), pp. 233-346.

a "unilateral influence"⁽¹⁵⁾ in determining interpersonal behaviour. Such terms, as clarified and emphasised by McDougall, are now discussed in connection with "social perception".⁽¹⁶⁾ This is so, because they affect the individual's attitudes and behaviour within the context of the social structure. Again, it appears that it was McDougall who could discover, to quote M.Deutsch and R.M. Krauss (1965),⁽¹⁷⁾ that "The source of an instinct is the somatic process which gives rise to the stimuli that are represented in the mind as an instinct". For McDougall, the most useful concept, is that all instincts draw upon a common neural energy. In the McDougallian sense, energy is a tendency to act. It both connotes a genetically-directed specific object and specific, or at least restricted mode of behaviour.

Complete avoidance of ascribing innateness to behaviour, both animal and human, now seems questionable. Notable writers, such as R.B.Cattell, (1941,⁽¹⁸⁾ 1957,⁽¹⁹⁾ 1965,⁽²⁰⁾),

(15) Newcomb, T.M., Turner, R.H. and Converse, P.E. : Social Psychology, (1965), op.cit., p.273.

(16) Bruner, J.S., in: Readings in Social Psychology, op.cit., (1958), p.85.

(17) Theories in Social Psychology, New York, Basic Books, p.131.

(18) General Psychology, Sci-Art Publishers, Cambridge, Mass.

(19) Personality and Motivation Structure and Measurement, New York, Harcourt.

(20) The Scientific Analysis of Personality, Penguin ed, see ch.3, pp.53-76.

explicitly recognise the importance of instinct; yet he tends to equate it with the "erg" in order to supercede the probable difficulties that the term "instinct" might provoke. Cattell's definition of an erg may be easily seen as being inspired by McDougall's own definition of instinct. "An erg is an innate psycho-physical disposition which permits its possessor to acquire activity to certain classes of objects more readily than others, to experience a specific emotion, and to desire one kind of satisfaction in preference to others. There are, further, preferred ways of behaving in reaching each of the preferred goals".⁽²¹⁾ In such a definition McDougall's words are repeated almost verbatim. Cattell's erg is considered as a main innate disposition in man.⁽²²⁾ Following McDougall, the stress is being placed upon the whole reaction to a whole situation. In factoring out the inborn motivational units of (ergs), Cattell (1957) has found adequate support for some of McDougall's instincts such as sex, gregariousness, parental protectiveness, exploration, escape, and self-expression. In his analysis, he was guided by McDougall's concepts applied to personality. Of self-assertion, Cattell has stated that "It is interesting to note that, of the various descriptions of this self-

(21) General Psychology, op.cit., p.110.

(22) ibid, pp.110-111.

assertive drive, McDougall's seems to have been the most unerring".⁽²³⁾ What Cattell has called "self-sentiment" which he described as an "environmental mold trait",⁽²⁴⁾ is in fact based upon the concept of McDougall's self-regarding sentiment and it takes the same important role that McDougall assigned to his own concept. In such generally favourable results based upon empirical studies of behaviour, there may be some evidence endorsing McDougall's contentions. Until abundant evidence is accumulated, it may be said that so far, McDougall has at least partially succeeded in his claims.

In social psychology, to speak of hormic concepts based upon instinct is not an easy matter. Captious criticisms, such as "the last of the mid-victorians",⁽²⁵⁾ "a writer who flourished in the later middle ages and had written out a list of alleged instincts of the human species",⁽²⁶⁾ were often levelled against him. Such and other strictures appear to have been provoked by the usage of the concept of instinct as an explanatory guide. At

(23) Personality and Motivation Structure and Measurement, op.cit., p.518.

(24) ibid, p.525.

(25) Schmalhausen, S.D., "The Sexual Revolution" in : Sex in Civilization, ed. by the writer himself and Calverton, V.F., New York, Thacaulay, (1929), p.367.

(26) McDougall, Wm., "Autobiography" in : History of Psychology in Autobiography, vol.I, op.cit., pp.191-223.

any rate, phenomena within the social structure of a society need to be explained. In order to elucidate such phenomena, there should be basic foundations. This is so, because the nature of a certain society is but the sum of its individuals' natures. The major issue, however, is as Smith (1960c) has indicated, "that events within the society are in some way determined, that in principle, at least, causes and/or reasons could be found for the activities which are observed".⁽²⁷⁾ Apparently, by "activities", Smith has meant the individuals' activities within the context of society at large. Indeed, social features are so complicated and the implications in society are overwhelming, so that there should be a solid foundation for interpreting the tremendously varied phenomena . The problem is, to cite Smith again, "While immensely complex, social phenomena are not regarded as entirely matters of chance".⁽²⁸⁾ There are consistencies, many of which are predictable. In a sense this could justify McDougall's recourse to explaining the individual's and the social phenomena on instinctual bases. Complications in human life are considerable, so that a hormic interpretation may be ultimately acceptable, and purposive,

(27) "Social Theory and Basic Motives" Presidential Address, Bull.Brit.Psych.Soc., op.cit., p.1.

(28) ibid, pp.1-2.

psychological explanation is highly relevant. The crucial thing is that, "In view of the enormous variation", to quote Smith (1960a), "both in the nature and extent of the possible causal contributions to behaviour of a purely psychological kind, it is often difficult to rule out some potential contributions as entirely irrelevant".⁽²⁹⁾

Evidently, however, McDougall is regarded⁽³⁰⁾ as the first to consider social phenomena in the light of man's instinctive and emotional endowments. In so doing, he was followed by other leading writers such as W.Trotter⁽³¹⁾ (1916) and Freud⁽³²⁾ (1920). All three attempted to establish a link between certain aspects of society and psychology through the concepts of instincts and the group mind. Trotter emphasised the herd instinct and regarded it as the sole basis for explaining certain features in society. Freud's theory of the group is a clear reflection of McDougall's influence in this respect (F.G. Alexander and S.T. Selesnick; 1967⁽³³⁾). He too, like McDougall, traced all human

(29) Explanation of Human Behaviour, op.cit., p.5.

(30) Flügel, J.C., "Professor William McDougall" B.J.Psych., vol.XXIX, part 4, (1939).

(31) Instinct of the Herd in Peace and War, London, Ernest Benn, 3rd ed. 1947, op.cit.,

(32) Group Psychology and The Analysis of the Ego., English trans., London, (1920), see also: McDougall's article : "Professor Freud's Group Psychology and his Theory of Suggestion" in: Problems of Personality, ed.by C.M.Campbell, Wm.McDougall and others (1932).

(33) The History of Psychiatry, London, George Allen, p.205 footnote.

behaviour, both of the individual and group, from the operation of instinctual impulses and the way in which these instincts are aided and frustrated by the impact of human beings one upon another (Smith⁽³⁴⁾; 1960a). Therefore the description of instinct seems to be inevitable; instinct and its derivatives, particularly its "emotional appeal",⁽³⁵⁾ have now considerable import for the theory of the individual and society alike. All the complexities of thought and action are explained through the complications of the instincts and their excitements and motor responses.

Coming back to Smith's second point (b) concerning McDougall's "philosophical convictions", it can be said that he believed in science and philosophy as an irrefrangible duality. He ascribed the decay of ancient civilisations to the lack of observing

(34) Explanation of Human Behaviour, op.cit., chapter X, "The Freudian Approach", pp. 324-360;

see also: Allport, G.W., "The Historical Background of Modern Social Psychology" in : Handbook of Social Psychology, 2 vols., ed. by G. Lindzey, (1959), Addison-Wesley Co., Vol.I, pp. 3ff.

(35) Lewan, P.C. and Stotland, E., "The Effects of Prior Information on Susceptibility to an Emotional Appeal" J.Abnor. and Social Psych., vol.62, (1961), pp. 450-453.

such facts. He could state that "Older civilizations have decayed and passed away because they lacked both science and philosophy."⁽³⁶⁾ The present civilization is equally threatened by the same decay, unless it observes the marriage of science and philosophy as indispensable. "Ours", he added, "is threatened with a similar fate, and with more rapid destruction" than the older societies. This is so not through "lack of science, but through one-sided development of the sciences, through the backwardness of the social sciences which alone, under the guidance of philosophy, can adjust our social systems to the rapid changes of conditions of life produced at an ever accelerating rate by the victorious science".⁽³⁷⁾ Such a statement may be considered as a defence of a thesis, a philosophical one, and it could be regarded as a starting-point for social science. It clearly delineates the relationship between various disciplines, namely, psychology, the theory of knowledge, and logic. The observation precisely indicates that these three enquiries are concerned with mental functions, both of the individual and of his activities merged with the groups. Each of all these branches has in

(36) "Philosophy and the Social Sciences" in : Human Affairs, ed. by R.B. Cattell and others, London, MacMillan and Co. (1937), p.343.

(37) ibid, p.343.

a sense connection with well-nigh all knowledge. Yet such an ideal enjoins that departments of psychology should not be established, to quote G. Westby⁽³⁸⁾ (1966) of Cardiff University, "exclusively or even primarily as Racing Stables for training research animals, learning experimentalists ... nor as Spanish Riding Schools for the training of recondite practical skills like administering and scoring intelligence tests and projective techniques". In short, to confine Psychology to the walls of the laboratory would mean depriving it of its philosophy which can be taken as a guide line in the exploration of the supreme aspirations of the human beings as individuals and as members of societies; and this, again, may be part of McDougall's heroic, social philosophy.

Evidently, in his philosophical arguments, McDougall was influenced by F.H. Bradley's (1846-1924) doctrine stated in "My Station and its Duties"⁽³⁹⁾ (1876). In support of his case, he cited Bradley's position at length.⁽⁴⁰⁾ These excerpts may illustrate. "The individual's consciousness of himself is inseparable

(38) "Psychology Today : Problems and Directions" Presidential Address in Bull. Brit. Psych. Soc., vol.19, No.65, p.3.

(39) in : Ethical Studies, Oxford; 2nd ed. (1927), published posthumously.

(40) The Group Mind, Cambridge, The University Press (1920), pp.xi-xii.

from the knowing of himself as an organ of the whole ... The truth of individualism is saved, because, unless we have intense life and self-consciousness in the members of the state, the whole state is ossified ... The two problems of the best men and the best state are two sides, two distinguishable aspects of the one problem, how to realise in human nature the perfect unity of homogeneity and specification ... the better the one the better the other ... Personal morality is moral, because and in so far as it realises the moral whole".

Seizing upon the clues found in Bradley's contentions, McDougall strove to approach the question from a strictly scientifically hormic position. For example, in The Group Mind : A Sketch of the Principles of Collective Psychology with some Attempt to Apply them to the Interpretation of National Life and Character (1920), he clearly explained that the normative doctrine or "ideal" at which he aimed was a synthesis of the principles of individualism, democracy, self-realisation and service to the community. His effective means of analysis starts basically from instinct as usual. In consideration of social motivations and other problems of social phenomena, many writers⁽⁴¹⁾ today couple McDougall's name with that of

(41) See for example:

- (1) Murray, H.A., "Preparations for the Scaffold of A Comprehensive System", Psychology: A Study of Science, ed. by S.Koch, New York McGraw-Hill, vol.3, (1959), pp.13, 20.
- (11) Sherif, M., "Social Psychology: Problems and Trends", Psychology A Study of Science, ed. by S.Koch, New York, McGraw-Hill, vol.6 (1963), pp.58, 63.
- (111) Lambert, William W., "Social Psychology and other Behavioural Sciences", Psychology: A Study of Science, vol.6, (1963), op.cit. pp.205, 212.

Darwin for their discovery that human nature is biologically founded in instincts. In his effort to find an adequate solution to problems of social motivation, H.A. Murray (1959), for instance, explicitly acknowledged his indebtedness to Darwin and McDougall, "who had used the concept of instinct as their tool".⁽⁴²⁾ "The solid fact" that Murray has recognised is that he derived his ideas, which are incorporated in Explorations of Personality⁽⁴³⁾ (1938) [Murray et al] from McDougall. Here too, Murray et al tried to identify a number of the determinants of behaviour, the "actional dispositions" which are useful constructs in categorising inferentially the overt behaviour of the individuals studied. Social Psychology stems historically⁽⁴⁴⁾ from McDougall, largely because (a) he formulated the theory of instincts neatly so that a convincing explanation of human nature could be found; and (b) he conceived social psychology focussed on the individual as the main unit of social life, but the individual can better be understood within the context of the group. Along with other names such as Freud, Allport, Tolman, and others, McDougall is now⁽⁴⁵⁾

(42) "Preparations for the Scaffold of a Comprehensive System", Psychology : A Study of Science, vol.3, op.cit., p.20.

(43) New York, Oxford University Press.

(44) Lambert, W.W., "Social Psychology and other Behavioural & Sciences" (1963), Psychology : A Study

(45) of Science, vol.6, op.cit., p.212.

always placed at the top of the list in defining and stressing the importance of motivational factors in social Psychology.⁽⁴⁶⁾ McDougall was particularly impressed by the phenomena of group spirit. He postulated a group mind chiefly because he realised that the individual cannot be fully understood by studying him solely as an isolated person; and the gist of his Group Mind above is as follows.

As the individuals are endowed with instincts, they attain the consciousness of the self, moral socialisation and eventually "social consciousness", through the modification of the "primitive impulses". Modification takes place through experiences in which conduct is regulated by means of the individual's own ideals. The different levels of social and moral consciousness, however, are determined by the degree to which the other instincts with the social consciousness they involve can be organised under the self-regarding sentiment. The characteristic feature of human reflective consciousness is ascribable to the complications that arise through the freeing of ideas, the association and assimilation of these to each other and to the individual's perceptual powers, and finally the whole situation is related to the organisation of all these features into thought systems. Such a complex involves the

(46) Asch, S.E., "A Perspective on Social Psychology, Psychology: A Study of Science, vol.6, (1963), op.cit., pp.368-9.

combination of emotional elements into the systems of sentiments and the creating of dispositions. So McDougall's social psychology is wholly consistent with his over-all heroic approach to all psychological problems.

Thus interpreting his principles, McDougall endeavoured to apply them to the understanding, in particular, of the life of nations. By so doing, he attempted to make group psychology a distinct field within social psychology. While social psychology studies the reciprocal influences of the individual and the society in which he lives, group psychology concerns itself with the study of mental life of the groups of all kinds. The consigned task of group psychology is to examine the validity of the conceptions of a group mind, to set forth the general principles of collective mental life, to describe the characteristics of the various types within the main group and to account for them. So it could be said perhaps that McDougall's attempt to create such a branch within social psychology was the first of its kind.

It must be admitted, however, that the proper problem of the social sciences is complicated by the very subtle, psychological problems of evaluation. Such sciences are also inevitably mixed and entangled with a multitude of philosophical questions, as indicated - the questions not only of final goals and absolute values, but also the many subtle issues of relative values and a valid hierarchy of certain values. Such considerations undoubtedly come within the

sphere of social philosophy which should lay its specifications in accordance with a scale of values well thought out and validated. Then the social sciences may proceed to discover how these values could best be realised. This eventually requires the aid of science, and here a relevant question is to be raised as to how psychology can help in this field. It may be said that (1) since all the social sciences are concerned with human activities, they inevitably need the support of Psychology; (11) psychology also can assist in diagnosing the problems which might emerge and enter the special field of psychological investigations; (111) many social phenomena can best be tackled through the psychological researches. From this it follows that it would be far better if the social scientist takes an interest in philosophy, too. Support, however, for the marriage of science and philosophy can be found in a succession of publications by a considerable number of writers such as G. Ryle⁽⁴⁷⁾ (1949), D.W. Harding⁽⁴⁸⁾ (1956), F.V. Smith⁽⁴⁹⁾ (1960a and 1960c), A.R. White⁽⁵⁰⁾ (1961), G. Westby⁽⁵¹⁾ (1965, 1966) and many others.

(47) The Concept of Mind.

(48) "Education Through Psychology" Bull.Brit.Psych.Society, vol.28, pp.5-14.

(49) (1) (1960a) Explanation of Human Behaviour, op.cit.,
(11) (1960c) "Social Theory and the Basic Motives" op.cit.,

(50) Philosophy, Psychology and Sociology, Dep.of Philosophy, University of Hull.

(51) (1) (1965) "Psychology and the Social Sciences" Adv.of Science, vol.22, pp.424-84.
(11) "Psychology today : Problems and Directions"
Bull.Brit.Psych.Soc. op.cit.,

The essence of these writers' arguments, is that the considerable advance which sciences have thus far fulfilled is basically built upon and explicable in the light of philosophical discussions.

2. Some of the Experiments Made.

Believing in a teleological and directive force, McDougall criticised most of the older and contemporary theories alike. He was, for instance, in opposition to the work of the behaviourists who proposed a somewhat extreme empirical view of cognitive development. He strongly opposed the notion that learning was the literal and immediate association of different processes. He expressed dislike for the idea that a particular pattern of muscular activity becomes associated with particular circumstances, so that there is a kind of automatic pattern of response, as the behaviourists maintained. He agreed with the Gestalt School in its emphasis of the total situation;⁽⁵²⁾ but he concluded that insight alone is not a sufficient explanation of animal behaviour. He criticised the Gestalt psychologists on the ground that their theory would remain mechanistic in the broader sense unless they accepted a conative guide of foresight. It can be said, however, that his

(52) See for example:

(1) Smith F.V., "An Interpretation of the Theory of the Gestalt" The Australian J. of Psychol. and Philos., vol.XIX, No.3, (1941), pp.193-215.

(11) Smith, F.V., Explanation of Human Behaviour, (1960), op.cit., ch.IX.

experiments and observations are influential on both contemporary and subsequent psychological thought. As F.H. George⁽⁵³⁾ (1962), of Bristol University has remarked, "McDougall's work is relevant to Galton's, because he shows the effect of the influence of theories of biological evolution on his own theory of cognition". Such a judgement acceptable as it is, might have well added that McDougall's work is more valid to the present, psychological investigations.

Among the many experiments which McDougall did, were those conducted for the testing of the Lamarckian hypothesis. These experiments were undoubtedly his longest in duration of time, and the results were claimed to be positive. In connection with them, however, three chief points should be raised: (1) The nature and the outcome of the experiments themselves, (ii) the foundations on which they were based and their implications, (iii) the psychological value and validity of the results obtained.

With regard to (i) in 1920 McDougall undertook a series of experiments on rats. The duration of time was divided into four main periods: (1) from 1920 to June 1926, (2) from June 1926 to June 1929, (3) from June 1929 to June 1933, (4) from June 1933 until 1937.

(53) Cognition, London, Methuen, p.20.

The experiments required successive generations of rats to escape from an underwater tank by choosing the cue of a dimly lit in preference to a brightly lit corridor. There were in each generation a "trained" line which received training in escaping and an untrained line. McDougall claimed⁽⁵⁴⁾ brilliantly positive results. After nineteen generations, descendants of the trained line were claimed to be escaping with significantly fewer errors than the descendants of the untrained line. This was held to be evidence of the passing on from one generation to the next of some measure, at least, of an acquired skill or as he put it, of Lamarckian transmission.

However, the experiments appear to have been based on the following assumptions:

1. There would be an adequate theory of organic evolution if the Lamarckian hypothesis was valid - the hypothesis that modifications of function and structure acquired by the individual organism may be transmitted to its descendants.

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- (54) (1) "An Experiment for the Testing of the Hypothesis of Lamarck" B.J.Psych., vol.xvii, part 4, (1927).
- (11) "Second Report on a Lamarckian Experiment" B.J.Psych., vol. XX, part 3, (1930).
- (111) "Third Report on a Lamarckian Experiment" B.J.Psych., vol. xxiv, part 2, (1933); (with J.B.Rhine).
- (1v) "Fourth Report on a Lamarckian Experiment" B.J.Psych., vol. xxviii, part 3, (1938).

2. It seemed to McDougall that through the Lamarckian hypothesis, it would be possible to assign to mind, or, in other words, to purposive, teleological, or hormic activity, an understandable and decisive role in the drama of life.
3. In the absence of the Lamarckian principle, the place of mind in the scheme of nature would be "unintelligible".
4. If the Lamarckian contentions were valid, McDougall thought that much light could be thrown on "the social outlook". As to how this last concept could benefit from a Lamarckian theorisation, was not made clear; but clearly it would have been very comforting for McDougall's general position if, in addition to the operation of purpose and intelligence, the means whereby specific patterns of behaviour - i.e. instincts could come into being, could be determined. In this sense, he would have had it "both ways", as Smith⁽⁵⁵⁾ (1960a) has put it.

Presumably the experiments at issue and the arguments marshalled in their support were founded on the hormic viewpoint incorporated in An Introduction to Social Psychology. This assumption is based particularly on the following passage: "If we turn from the descriptive account of evolution to the problem of the dynamics of

(55) Explanation of Human Behaviour, op.cit., pp.122, 127.

the process, the hormic theory again is the only one that can offer an intelligible and self-consistent scheme. It notes how the human creature, through constant striving with infinitely varied circumstances, carries the differentiation of both cognitive and striving powers far beyond the point to which the hereditary momentum will carry them, the point common to the species, how it develops new discriminations, modified goals of appetition and aversion, modified trains of activity for pursuit or retreat. It notes that these modifications are achieved under the guidance of pleasure and the pain, the satisfaction and dissatisfaction, that attend success and failure respectively; it inclines to view the evolution or rather the epigenesis of the individual creature's adaptations as the model in the light of which we may interpret the epigenesis of racial adaptation. Such interpretation implies acceptance of Lamarckian transmission".⁽⁵⁶⁾

The above statement has been presented at length in order to show the importance of certain points, namely, that;

- (1) The concept of horme' can be taken as a workable scheme.
- (11) The evolutionary and the dynamic constituents of the organism are inextricably entwined in its constitution.

(56) An Introduction to Social Psychology, op.cit., pp.479-480.

- (iii) Under certain circumstances, modification of activities is indispensable for the perpetuation of the individual's own benefit.
- (iv) The adaptation of the individual can be taken as a guide line to understand the adaptation of the species to which the individual belongs.

The essence of the passage, however, is reflected in the detailed arguments explaining the experiments done for testing the Lamarckian hypothesis. The experiments provoked an enormous amount of interest, as shown below, and it must in no way be supposed that since the results of subsequent experiments by others were entirely negative, the hormic theory is accordingly futile. Such an assumption is to be completely ruled out, mainly because :

1. The concept of hormé is a theory which is vast in its connotations and implementations.
2. The theory, as mentioned before, is not at all borrowed from Lamarckian presumptions.
3. The experiments were conducted merely to test a hypothesis implied in one of Lamarck's evolutionary principles. If they failed because of an error in experimental method, no refutation of the hormic theory is involved.

Believing in evolutionary continuity, McDougall made it perfectly clear that in the case of every new development of form or function, the first step is the variation of the instinctive nature

of the species toward activities required for the efficient performance of the form and function. From McDougall's different discussions, it seems that he was of the opinion that if a relatively new mode of behaviour became fixed through repeated, successful efforts, natural selection might well perpetuate all congruent bodily variations which are of opposite nature. This principle, if it may be called so, might be rendered more effective by recognising from McDougall's standpoint, two things: (1) the causal efficacy of hormic striving, and (2) the reality of Lamarckian inheritance. This seems to be in opposition to the neo-Darwinism which appeared to him as rigidly mechanistic and materialistic. Consequently it seems that it was because of his protest against the neo-Darwinism, formulated by F.L. August Weismann⁽⁵⁷⁾ (1892, 1894) and others,⁽⁵⁸⁾ that he decided to carry out his Lamarckian experiments on rats. This takes us now back to item (11) above, namely, the foundations and implications involved.

Lamarck's doctrine was the subject of active controversies, particularly since the days of Weismann. The gist of the case against it is that such acquired traits are not heritable,

(57) (1) (1892) Essays upon Heredity and Kindred Biological Problems, English translation, Oxford, 2nd.ed, 2 vols., vol.I, pp. 83-84, 311, 399, 403, 433.

(11) (1894) The Effect of External Influence upon Development, (The Romanes Lectures), London, op.cit., p.155.

(58) E.B. Poulton, J.M. Baldwin, and Lloyd Morgan.

and are therefore ineffective in the accumulation of differences sufficient to originate new species or new habits.

Lamarck's theory of the transmission of acquired characteristics applies to both structures and functions; it is thought that the functions may precede and give rise to the structures. It appears that the heritability of functions was attractive to McDougall. The theory of the origin of instinct implied in Lamarck's position came to be widely known by George Henry Lewes. That structures or instincts can be derived from intelligent activities, as the Lamarckian interpretation implies, is very doubtful.

The animal is presumed to develop by repetition an automatic or habitual response to meet a situation which it was initially able to solve out of its general or unspecified behavioural resources. Moreover, it is assumed that in natural circumstances, the individual organism is in its own lifetime confronted with the same situation again and again and so too, countless, subsequent, generations. The degree of likelihood of the same situation recurring and the rigidity induced in the organism's general repertoire of responses would render the survival value of the operation somewhat dubious, because of reduced adaptation. In any case, McDougall's very positive

results were unique. The results published by experimenters⁽⁵⁹⁾ such

- (59) (i) Crew, F.A.E., "Lamarckism: A Review of McDougall's 2nd. Report on a Lamarckian Experiment", Eugenic Rev., vol.22, (1930), pp.55-59. cf. Morgan, T.H., (a) "The Mechanisms and Laws of Heredity", The Foundation of Experimental Psychology, ed. by Murchison, Carl, Worcester, Mass: Clark Univ.Press, (1929); (b) "Lamarckism", Encyclopaedia Britannica, vol.xiii, (1929).
- (ii) Crew, F.A.E., "Inheritance of Educability: A First report on an attempt to examine Prof.McDougall's conclusions relating to his experiments for the testing of the hypothesis of Lamarck", Proceedings of the 6th International Congress, Genetics, vol.I, (1932), pp.21-34.
- (iii) _____, "A Repetition of McDougall's Lamarckian Experiment", J. of Genetics, vol.xxxiii, No.1, (1936), pp.61-101.
- (iv) Dunlap, Knight, "Standardising Electric Shocks for Rats", J.Comp.Psycho., vol.xii, (1931), pp.133-5.
- (v) Sonneborn, T.M., "McDougall's Lamarckian Experiment" Amer. Nature, vol.65, (1931), pp.541-50.
- (vi) Krechevsky, I., "Hereditary Nature of Hypotheses", J.Comp Psycho., vol.xiv, (1932), pp.99-116.
- (vii) Wever, E.G., "Water Temperature as an Incentive to Swimming Activity in the Rat", J.Comp.Psycho., vol.xiv, (1932) pp. 219-224.
- (viii) Haldane, J.B.S., "Note on a Fallacious Method of Avoiding Selection", Amer.Nature, 66, (1932), pp.479-8; cf. Haldane's reference to McDougall's 1st and 2nd reports in: The Causes of Evolution, (1932), op.cit., pp.136-7.
- (ix) Hack, E.R., "Learning as a Function of Water Temperature", J.Exp.Psycho., vol.xvi, (1933), pp.442-5.
- (x) Drew, G.C., "McDougall's experiments on the inheritance of Acquired Habits", Nature, London, vol.143, (1939), pp.188-91.
- (xi) Agar, W.E., Drummond, F.H. and Tiesgs, O.W., "A First Report on a test of McDougall's Lamarckian Experiment on the training of Rats", J.Exp.Biol., vol.xii, No.3, (1935), pp.191-211.
- (xii) Agar, W.E., "Second Report on a test of McDougall's Lamarckian experiment on the training of Rats", J.Exp.Biol., vol.xix, no.2., (1942), pp.158-167, see also: Castle, W.E., Amer.Nature, vol.75, (1941), p.492.

as F.A.E. Crew., W.E. Agar, F.H. Drummond and O.W. Tiegs, Agar alone, and others, did not confirm McDougall's results. In fact, they provided no positive evidence of transmission of the acquired skill.

The criticisms levelled against McDougall's Lamarckian experiments, seem to rest on the inadequacy of the methods applied in the sampling and tests conducted at each generation, whereby certain factors of bias in favour of the bred line were admitted. However, while these experiments appear to have given no real support to McDougall's position, other avenues of support were forthcoming. Subsequent studies such as those made by Lorenz, Tinbergen, and Lashley positively supported McDougall's general doctrine of instincts. Lashley's important paper "The Experimental Behaviour"⁽⁶⁰⁾ (1938), for example, gave a confirmatory account of certain assumptions of specific releasers made by

Continuation of footnote (59) from previous page:-

- (x11) Agar, W.E., "Third Report on a test of McDougall's Lamarckian experiment on the training of Rats", J.Exp.Biol., vol.xxv, No.2, (1948), pp.107-122.
- (x1v) Agar, W.E., "Fourth Report on a test of McDougall's Lamarckian experiment on the training of Rats", J.Exp.Biol., vol.xxxi, No.3, (1954), pp.307-321.
- (60) Psycho.Rev., vol.45, pp.445-471; see also:
Smith, F.V., Explanation of Human Behaviour, op.cit., p.158.

McDougall. In the light of the considerable evidence in the literature of ethology, one would be disposed to agree with Smith⁽⁶¹⁾ (1960a) in his judgement that, "it would only be fair to state that there is an obligation to reconsider McDougall's position". It is justifiable to state that the whole, vast and rapidly growing literature of Ethology from Darwin, Whitman, Heinroth, Lorenz, Tinbergen and their many followers is a vindication, on empirical evidence, of McDougall's insistence upon the existence of behavioural patterns which are innate; and as pointed out (Ch.VI), the experimental evidence deriving from neurological techniques initiated by Hess and Brügger and the chemical stimulation techniques of Fisher have shown that such patterns are mediated by demonstrable structures.

3. Discussion and some Conclusions.

It is now about sixty years since McDougall had declared⁽⁶²⁾ (1908) that the science of Psychology must be recognised as the most essential common foundation on which all the social sciences like "ethics, economics, political science, philosophy of

(61) Explanation of Human Behaviour, op.cit., p.158.

(62) An Introduction to Social Psychology, op.cit.,

history, sociology, cultural anthropology, and the more special sciences, such as the sciences of religion, of law, of education and of art" - must be built up. Such a broad claim may be criticised, in G. Westby's⁽⁶³⁾ (1966) words, as seeking a "scientific empire for Psychology".

McDougall's distinguishing characteristic, however, was that his pronounced hormic Psychology is appropriately related to every walk of life, particularly to the internal life of man. By internal life, McDougall almost always meant mental life which for some time remained highly disputable for lack of a scientifically acceptable techniques of investigation. Apparently this is why he wanted a hormic, scientific Psychology permeating the essential disciplines of humanities and education. Again, perhaps this was why in early 1897,⁽⁶⁴⁾ 1902,⁽⁶⁵⁾ 1903,⁽⁶⁶⁾ 1906,⁽⁶⁷⁾ he attempted

(63) Bull.Brit.Psych.Soc., vol.19, No.65, op.cit., p.8.

(64) "A Contribution towards an Improvement of Psychological Method" MIND, N.S., vol. VII.

(65) "Physiological Factors of the Attention Process" MIND, N.S., vol. XI, paper I.

(66) "Physiological Factors of the Attention Process" MIND, N.S., vol. XII, paper II.

(67) "Physiological Factors of the Attention Process" MIND, N.S., vol. XV, paper III.

to improve Psychology, aiming at rescuing "Mind" from an "undignified position to which it had been reduced by the prevalence of Epiphenomenalism and Psycho-physical Parallelism". Instead, he defended⁽⁶⁸⁾ (1911) a dualistic hypothesis of animism which he based on teleological vitalism. His unlimited belief was that "psychic activity is always and everywhere teleological, a striving towards some end or goal".⁽⁶⁹⁾ This, however, in no way⁽⁷⁰⁾ means that "teleological or purposive causation" is associated with the mechanistic point of view.

In a sense all mental, psychical activity is purposive, and, in J. Cohen's⁽⁷¹⁾ (1951) words, "purposive explanations are so

(68) Body and Mind ; A History and Defence of Animism, London, Methuen, now published in paperback (1961), Beacon Press.

(69) The Energies of Men, op.cit., p. xii.

(70) ibid, p.xii, see also by the same author:

(1) "Mechanism, Purpose and the New Freedom" J.Philos., vol. ix, No. 33, (1934).

(11) Religion and the Sciences of Life, London, Methuen, (1934).

(111) The Riddle of Life, London, Methuen, (1938).

(71) "Teleological Explanations" Proc.Arist.Soc., vol.LI, p.272.,

See also:

(1) Kneele, M., "What is the Mind-Body Problem ?" Proc.Arist.Soc., vol.L, (1950), pp.105-122.

(11) Joad, C.E.M., Ewing, A.C., and Maciver, A.M., "Is there Mind-Body Interaction?" Symposium in: Proc.Arist.Soc., vol. LI, (1951).

useful for understanding the behaviour". By purposive behaviour is naturally meant that which in its consequences is always aiming at an end (K.R.L. Hall :⁽⁷²⁾ 1963a). Such a type of behaviour is adaptive and is held to be constituted of unlearned patterns. It is complex and its elements are recognised to be ready prior to specific learning (P.H. Schiller:⁽⁷³⁾ 1952); in a word, such elements are widely admitted to be inherent in the organism's constitution. This clearly indicates that the constituents which have the prepotency of activating purposive behaviour are held to be "instincts in which the emotions are instigated via innately organised perceptual system", as Smith⁽⁷⁴⁾ has pointed out. What K. and M. Breland (1961) have called "instinctive drift",⁽⁷⁵⁾ is a clear indication of how strong the instinctive behavioural patterns are. It is obvious that instinctive patterns are stronger than the conditioned responses, and the organisms act the way they do because they are "tapped by strong instinctive behaviours"⁽⁷⁶⁾. In such a trend

(72) "Tool using performances as indicators of behavioural adaptability" Current Anthropology, vol.4, pp.479-494.

(73) "Innate constituents of complex responses in Primates" Psych.Rev., vol.59, pp.171-191.

(74) "Social Theory and the Basic Motives" Bull.Brit.Psych.Soc., (1960c), op.cit., p.13.

(75) "The Misbehaviour of Organisms" Amer.Psychologist, vol.16, pp.681-684.

(76) ibid.

of thinking there might be an answer to McDougall's repeated question: "Why do you, why does any one, desire this or that (or any line of action)?"⁽⁷⁷⁾. To this may be added that the individual, both human and animal, behaves in a particular way because he is constituted in that way.

The goal-seeking nature of the activity which is achieved persistently and the adaptability of the activity itself are main criteria indicating the existence of instinct. These two features of behaviour are applicable to the individual as well as to society at large. Apparently this was the reason that McDougall made instincts the basis of understanding the constitution of human nature and consequently society which may be likened to an organisation. In their nascent stages, instincts are easily modifiable, so that they are included in what Smith (1960c) has called "the developmental history of the person",⁽⁷⁸⁾ and, it may be added, society as well, so long as Smith used the expression within the context of his hypothesis of social theory. Indeed, they are included in what K.R.L. Hall (1963b) has called "the ontogeny of social learning";⁽⁷⁹⁾ they underlie McDougall's hormic, social theory.

(77) The Energies of Men, op.cit., pp.25-26.

(78) "Social Theory and Basic Motives" Bull.Brit.Psych.Soc., op.cit., p.12.

(79) "Observational Learning in Monkeys and Apes" Brit.J. Psych., vol.54, pp.201-226.

Criticisms, however, are often made as to how McDougall's instinct would materialise in the human individual and in society alike. A nameless⁽⁸⁰⁾ critic, for example, remarked that "while giving a full account of the genesis of instincts that act in society, he hardly shows how they issue into society". Such and more criticisms are frequently expressed, but the points to consider are: (i) no suggestion was made by the critics as to any clear-cut alternative to the term "instinct" against which the stand was taken. (ii) In most of the criticisms encountered, there is an overlooked fact, namely, the instinct is an explanatory concept valuable to the dynamic hormic psychology. (iii) It is sometimes mistakenly believed that an instinct is a mere class name for a certain type of behaviour. (iv) Instinct is part and parcel of McDougall's hormic psychology which he wanted to be, in Smith's⁽⁸¹⁾ words, "inevitably associated with any theory of events in society".

The crucial point appears to be as Woodworth (1965) has seen it, namely, "McDougall's influence has been probably greater than he thought".⁽⁸²⁾ Yet it cannot be said that the hormic theory can be taken as an absolute substitute for other motivational

(80) quoted by McDougall himself in : The Group Mind, op.cit., p.viii.

(81) "Social Theory and Basic Motives" op.cit., p.19.

(82) Contemporary Schools of Psychology, 9th ed., op.cit., p.350.

theories such as those of, say, G.W. Allport and C.R. Rogers⁽⁸³⁾ (born 1902) which concentrate on culturally induced patterns. Nevertheless, the basic features of the neurological correlate for each instinct, the specific quality of the instigating stimuli and accompanying emotion, the many ethological demonstrations of intricate patterns of behaviour which in an impressively consistent way distinguish one species or class from another and demonstrate remarkably an evolutionary continuity in behaviour, have all now, strong empirical support. What, in 1908, was an attractive and even to some, imaginative theory which directed the course of Psychology away from the narrow Wundtian laboratory studies of man, has now acquired the standing of a serious, defensible hypothesis. No other hypothesis in the whole history of Psychology has received anything like the same degree of empirical confirmation, and while the dangers of using the concept of hormé as a working hypothesis have been stressed above, it can be claimed that the assumption that much animal behaviour is purposive has more empirical support than the hypothesis that it is not.

(83) See for example:

- (1) Rogers, C.R., "A Theory of Therapy, Personality, and Interpersonal Relationships, As developed in the Client-Centred Framework" in: Psychology: A Study of Science, ed. by S.Koch, vol.3, (1959), New York, McGraw-Hill, pp.184-256.
- (11) _____, On Becoming A Person: A Therapist's View of Psychotherapy, Boston, Houghton Mufflin, (1961).