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THE PHYSIOLOGICAL THEORY OF THE EMOTIONS AND ITS FUNCTIONAL-COGNITIONAL ROLE IN THE MORAL LIFE OF THE INDIVIDUAL ACCORDING TO WILLIAM JAMES

by

Charles A. Visgak, B.A., M.A., Ph.L.

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FOREWORD

The author has spent the past seven years lecturing in Ethics to the students of the Faculty of Science of the University of Ottawa. In the course of these lectures it was found that the students, while courteous and attentive, exhibited a kind of hostility to the matter that was being presented to them. The content of the lectures in Ethics were based largely on the Nicomachean Ethics of Aristotle with particular emphasis given to the emotions and the necessity of their submission to reason in the form of the moderating Cardinal virtues. I found that the latter material was the least controversial, and indeed, was very readily acceptable to the majority of the students. This caused me to do considerable research into the nature of the emotions with the idea of expanding its treatment in the course. This lead to William James, who in the nineteenth century proposed with Professor Lange what has now come to be known as the James-Lange theory of the emotions. It was immediately evident that James' conception was in radical disagreement with the Aristotelian notion of the emotion, namely, as the act of an appetitive power inhering in the human composite of matter and form with concomitant physiological changes.

Professor James' view was strictly physiological, that is, he conceived the emotion as a bodily reaction to any stimulus consisting of visceral changes which were basically chemical, and carried throughout the organism by means of the central nervous system.

A further reading into the works of William James indicated how central the emotion doctrine was to James' total psychology of man, as well as his philosophical speculations about the universe in which he lives.

Thus, from the study of the emotions, I was led to his all-important conception of the nature and function of cognition, which we shall discuss more fully. This led to the epistemological problems resulting from the mind-body relationship, then to his view of the genesis of the abstract sciences such as metaphysics, logic, mathematics, and finally, his views on the origin of ethical knowledge and its pragmatic value. In all of this the emotions (feeling states) played a very significant role.

Nurtured in the tradition of moderate-realism, according to which the mind knows directly things, 'extra mentem meam', which possess determinate natures potentially knowable, it was a surprise at first to learn that James did not see

the abstract branches of human knowledge as taking their origin in experience, in the usual sense of the term. Such knowledges were, indeed, but the products of the human mind interiorly perceiving relations among ideas which may or may not have applicability to reality. These relations, however, needed verifiability through their workability (results) in the outer-world. We shall see that the emotions (feelings) are profoundly involved in this interior perception.

The origin of the ethical norms or principles was of especial interest to me in that I entertained the hope that perhaps there was something in the thought of William James touching on this subject that might prove serviceable in my efforts to communicate with the minds of science students in this last half of the twentieth century. I was deeply convinced that these students were not an amoral group, but that by their scientific orientation they demanded the kind of evidence for the philosophical-ethical statements that were being proposes to them, comparable to the experimental evidence which scientific propositions require. In a word, they wanted empirical confirmation.

In conversations outside the classroom, some students frankly admitted that such notions as soul, immaterial powers

of the soul (intellect and will), transcendent values, nature of man - they simply could not relate to any empirical data, even though the terms themselves were vaguely intelligible. Thus, they concluded that such terms were semantical expressions whose utter subjectivity of meaning had been clearly demonstrated by the analytic philosophers. Their best utility, these same students held, was in the service of religion, which itself was a very subjective affair. My reading of William James indicated that he was saying almost the same thing.

It was in this way then, that I undertook a very detailed reading of the works of William James, with particular emphasis on his educational background, with the hope of determining just what prejudiced James so much in favor of science and its method. He proved to be a highly gifted, but a very complex man. For instance, in his intellectual make-up, he was not only a physicist, but a medical doctor, a psychologist, a philosopher, and a man of no mean artistic and literary talent. Furthermore, he was the embodiment of all the knowledge in these respective fields that was available in the nineteenth century. Surprisingly enough, his knowledge of scholastic philosophy was astounding, and it was

made possible by the fact that he taught himself Latin during his early stays on the continent of Europe.

But much of this detail will be seen in the chapter dealing with his biography. Here I wish to indicate all this in order to make clear the manner of procedure adopted at the outset of the body of the dissertation, namely, an introductory chapter dealing with the intellectual melieu of the first half of the nineteenth century.

I decided that if I desired to fully understand this man and his very influential thought, not only in psychology but philosophy as well, I had to locate him among his contemporaries and their intellectual activities. This meant research into the status of science, psychology, physiology, and philosophy in the nineteenth century. Without an understanding of this background William James is not sufficiently intelligible.. With it, he makes profound sense and again verifies the statement that all men are moulded by the environment in which they begin to grow.

It proved to be a fascinating study, indeed, but a very complex one, for science was rapidly expanding as a consequence of the discovery that its methodology could be used to deal with many problems which heretofore seemed to be

the exclusive province of the philosopher and the theologian. Thus, the new physiology was studying sensation and the human brain, which was but the prelude to the rise of the new empirical psychology. In biology, the fixity of species was being seriously questioned, meaning that the road was being paved for the appearance of Darwin with his new and bold hypothesis of evolution. Charles Darwin exercized a profound influence on William James, and it would not be too far-fetched to say that Darwin's teaching concerning the uniqueness of the individual was the necessary condition for James' rejection of monism and the substitution of his radical pluralism.

Philosophically, he was influenced by three men who really belong in the eighteenth century, but who continued to exercize a strong influence well into the nineteenth century. They were John Locke (1632-1704), David Hume (1711-1776) and Immanuel Kant (1724-1804). Locke's doctrine concerning human knowing was especially influential, particularly his teaching concerning secondary qualities.

But the philosopher who changed William James' entire intellectual life was Charles Renouvier. On this point Professor Ralph B. Perry says, "that Renouvier's was the

greatest individual influence upon the development of James' thought cannot be doubted."[1] This matter will be dealt with thoroughly in the chapter dealing with the biography of William James. The larger background is covered, as has been said, in the introductory chapter.

This research into the period and in the teachings of William James, convinced me that the seeds for the present deplorable gap between science and the humanities, and particularly philosophy were being sown here. It is the problem that C.P. Snow in our own times has referred to, as that of the 'two cultures'. If a phrase may be borrowed from the somewhat analogous situation that has obtained between the French and the English in Canada, we could term the Science-Humanities conflict the problem of the 'two solitudes'. Let us make no small thing of this, for it is a serious problem, as my own classroom experience confirmed, and it was one of which William James was all too acutely aware. Indeed, in his own lifework, that of the philosopher, which he was above all else by personal choice, he made every effort to debunk

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[1]Ralph Barton Perry, The Thought and Character of William James, Boston, Little, Brown and Company, 1935, Vol. I, p. 65.

the 'dogmatism' of his fellow scientists. Nowhere do we see this more clearly than in his rebuke of them for rejecting out of hand the evidence for such non-sensorial knowledge as occurs in the case of mediumship, instances of clairvoyance, and the revelations made to religious mystics. James tried, perhaps, to make too much of these very subjective and suggestive mental states and thereby weakening his own scientific reputation. But this showed the very warm quality of the man, in that he would not demean or neglect any worthy factual human experience. James maintained that these people, with their experiences of extra-sensorial insight which he documents so well in the Varieties of Religious Experience, cannot simply be dismissed and ignored.

But he was equally critical of the pretensions of what he termed 'idealistic' philosophical systems, which claimed to solve the world's problems and answer some of man's deepest concerns with what James considered as nothing but verbalisms or over-beliefs, (dogmatic systems), as he termed them in the Varieties. In this regard, he was caustically critical of the manual type of scholasticism of the nineteenth century, which was really nothing but a hodgepodge of Leibnitz's thought, systematized by Wolff and some ingredients of Descartes' thought

as well.

It would be almost fair to say that William James attempted to resolve the conflict between these two different approaches to reality, (science and idealistic philosophy), but whether he succeeded or no, we leave to a later chapter. It may be seriously wondered whether there is any possible bridging of this widening gap between the two disciplines. But that too we leave to another page.

Suffice it to say here, that from this study of William James' thought in particular, and the nineteenth century in general, I came to understand the restiveness of the science students who attended my lectures in Ethics. They were, in a word, but reflecting that antipathy toward the traditionally conceived notion of philosophy that is almost the hallmark of the contemporary scientist. Whether and how these attitudes of science students can be changed are problems to which we shall in the conclusion return. Our purpose here is to indicate how we came to write on William James and this particular topic within his system.

A word remains to be said about the procedure that we followed in this study. As the title of the thesis indicates, the research was primarily centered on the nature of

the emotions as William James conceived them (physiological phenomena), and the function that they perform in the formation of the moral choices.

It seems on the surface as a simple program, easily and directly attainable. But William James is a very thorough philosopher, a real system builder, if one may use that phrase. This has meant that, willy-nilly, we have gotten involved in other issues, such as the epistemological problem, the nature of outer reality, the nature of scientific knowledge and its superiority when compared with metaphysics, Pragmatism's conception of truth, etc.

But it is hoped that all this additional knowledge shall serve to throw into greater relief the specific research problem of the thesis. Personally, it has helped me to understand the task that falls upon those teachers of philosophy who are engaged in communicating that discipline to today's science students. In our conclusion we shall, as has already been indicated, return to this matter.

I should like to take this opportunity to express a lasting gratitude to the Reverend Jacques Croteau, O.M.I., dean of the Faculty of Philosophy of the University of Ottawa, who kindly consented to my giving the substance of this thesis

as a graduate course in the Faculty of Philosophy during the 1965-1966 academic year. It was an invaluable aid in the realization of this work, since it offered the occasion to crystallize my thought on the philosophy of William James. There are other unnamed friends whose words of encouragement were deeply appreciated.

CHAPTER I

INFLUENTIAL PREDECESSORS AND CONTEMPORARIES

Their Doctrines Concerning Physiology, the Brain and the Nervous System and the Evolution of Species

The British poet, John Donne, said that no man is an island. In no order more than the intellectual does this have greater applicability. For the man of letters of necessity must feed on the deposit of knowledge which his ancestors have left as a legacy to their posterity. Not only this, he must immerse himself in the thought that is current in his own day if he is to avoid the aridity of studying the past simply to know the past. And finally, he must in his own time make significant contributions which will advance the discipline of his choice. These are the characteristics of the great men who leave their mark on the passage of time.

William James, the physiologist, the psychologist and the philosopher was just such a great man. He knew the past, was 'au courant' with the times in which he lived, and even today, some 57 years after his death, his thought, especially in the field of philosophy continues to exert a strong influence. And even after this influence itself

wanes as an active force, the intellectual history of his period of life on the American continent will be unintelligible without a reading of his written works. It is significant that the editors of the Great Books of the Western World chose his Principles of Psychology to include in that renowned compendium of scholars and moulders of Western thought.

Because Professor James was in the main stream of the intellectual currents of the first half of the nineteenth century, it is necessary to view in a brief but thorough way the principal ideas then current as well as their originators insofar as they served to influence him. Our survey will center on the continent of Europe, principally Germany and France, for it was in these two geographical centers that James sought his intellectual nurture. The French and German savants were founding the new science of physiology which was to be the foundation for the new psychology; the latter being largely, at least in its inception, the work of the German scholars. It was to Germany that James went to learn the new experimental physiological

psychology and he imported it back to America.

The fact that there is no specific mention of the English empiricists as the Mills (James and John Stewart), John Locke, David Hume, etc., is not meant to imply that the influence of these prominent philosophers was nil . Far from it; their teachings on sensation and ideas were well known and to a varying degree accepted by James. As the thesis unfolds the influence of these men and their respective doctrines will be alluded to when it appears appropriate.

But our purpose is to show how the new psychology which was emerging in Germany served to mould, and influence James's philosophical thought. It is for this reason that we have restricted the considerations of this introductory chapter to the new physiological psychology of the nineteenth century and its founders. The biographical data of William James is taken up in the following chapter. But since there is much within it which compliments and indeed, enlarges on what is said in this chapter, the reader is advised that the two should really be seen as but one chapter with two sections. But to keep the chapters manageable, it was necessary to

completely separate them and treat them as distinct units.

We begin then with a discussion first of the general character of physiology in the first half of the eighteenth century, the advances in knowledge of the brain and the nervous system and finally the theory of evolution. The second section of this chapter will deal with the founders of the new empirical psychology and their principal doctrines.

Part A: The Ideas.

1. Psychophysiology in the First Half of the Nineteenth Century.

Experimental psychology was getting its start within experimental physiology during the first half of the nineteenth century. There were between 1800-1850 nine important developments which belong as much in the history of physiology as in the history of psychology. They were:

1). <u>Sensory and motor nerves</u>. The problem was to determine if they were different. Galen had held that they were, but they were both thought to be but passive conductors of animal spirits. The notion of reflected action stated that the animal spirits, entering in from the sense-organs along

one nerve, were then reflected out to the muscles along others. In 1811 Sir Charles Bell privately published his discovery that the sensory fibers of a mixed nerve enter the spinal cord at the posterior (dorsal) nerve root, whereas the motor fibers of the same nerve leave the cord by an anterior (ventral) root. The consequence of this discovery lead to the separation of nerve-physiology into the study of sensory and motor functions, of sensation and movement.

2). Specific nerve energies. The next occurrence was the division of the sensory fibers into kinds. In 1826 Johannes Muller was arguing for five kinds corresponding to each of the five senses and he said that each kind had its own 'specific' energy. But the idea was not original with him. Bell had already made the same argument in 1811. Thomas Young had suggested in 1801 that color vision could only be accounted for by three different kinds of visual fibers. And most importantly, John Locke's doctrine of the secondary qualities (1690) already implied that the nerves were not simply passive conductors of the properties of perceived objects. It was just this which Muller was insisting upon. We shall study Muller's doctrine more thoroughly shortly.

Helmholtz later extended the doctrine of specific energies to account for the different qualities within each sense, v.g. three energies for colors, a thousand or more for tonal pitches, etc.

3). Sensation. This period was marked by a great deal of significant work that was being done on the sense-organs and the general phenomenology of sensation. Most of it was on vision. It was through his treatise on visual phenomena (1826) that Johannes Muller first achieved fame. It should not be surprising that vision would precede all the other senses in this matter of research since it was a natural consequence of the fact that after mechanics, optics was the next topic which occupied the physicists. So that with the interest in celestial bodies came the interest in telescopes, and it was Kepler who recognized the eye as an optical instrument. Even mathematics was interested in light since there exists a geometry of light (Euclid wrote on Optics).

There was also good experimentation done on hearing, v.g., Ohm's acoustic law. But perhaps the outstanding and classical research was that of E.H. Weber on touch which he

published in 1834.

4). Phrenology. Certainly Franz Joseph Gall (1758-1828), the founder of phrenology, intended that it should be psychophysiology and hence scientifically acceptable, when in 1800 he undertook to show that the various mental functions specifically depend on a proper region in the brain and that an excess in one function is a consequence of an enlargement of the brain (and thus too the skull) in the corresponding region. The discovery of 'bumps' in these localized areas of the brain was supposed to indicate the character type. The doctrine was immensely popular because of this ready means for diagnosing personality. And although the scientists of the day fought it, it lead them to inquire further into the nature of the localization of brain functions so that it did serve a purpose.

5). Localization of function in the brain. The attempt to locate within the body such mental functions as sensation, intellect, and emotion is an old one. Galen (ca.129-199A.D.) localized the mind in the brain; Aristotle (384-322B.C.) had it in the heart. Bichat (1771-1802), French physiologist, localized the emotions in the viscera. In the nineteenth

century, stimulated by the pretensions of phrenology, physiologists accepted Galen's dictum that the brain is the organ of the mind and then set about to establish experimentally how many more mental functions could be located in the brain. The most famous name associated with this research is Flourens. We shall return to him and this research on localized brain function in a separate section of this chapter.

6). Reflex Action . The concept that the movements of animals and some of the movements of man might be automatic and involuntary has a long history. Descartes (d. 1650) held it; the French materialists, La Mettrie (1748) and Cabanis (1802) propagated the idea. The first important experimentation on reflex action (in the modern physiological sense) was done by Robert Whytt, the results of which were published in 1751. He described his experimentation with frogs, showing that the spinal cord was both necessary and sufficient to explain the many 'automatic' movements that occur in response to stimulation when the cord is severed from the brain. He also showed that reflex movement can occur when only a small portion of the cord is available..

Thus he proposed an important distinction between voluntary movements whose cause are an act of the will and involuntary, that is, 'spontaneous', or 'automatic' movements which can occur instantaneously without the exercise of reason. Still he believed that the production of movement by stimulation was dependent on a 'sentient principle' which was to be found in the nervous substance and that this principle was coextensive with the mind. In effect, he was arguing that though reflex movement was involuntary and dependent only upon the cord and not reason and skill, it was in some manner connected with the brain through this dependency upon the nervous system.

This raised the question whether involuntary movement is unconscious and it remained a source of dispute in psychophysiology for a very long time. We take time to examine it here, because it plays a prominent role in the thought of William James. In fact, one of his principle essays is entitled Reflex Action and Theism.

The problem had its origin in the philosophical-theological disputes that marked the later Middle Ages (Duns Scotus) and the beginnings of Modern Philosophy

(Descartes). As Professor Boring notes,

> Influenced by Descartes and the theological necessity for keeping the immortal soul distinct from the mortal body, the usual view of the mind-body relationship, before psychophysical parallelism took over in the middle of nineteenth century, was interactionism.[2]

This view of the mind-body relationship held that each affects one another. But even granting this intimate relationship of interaction, it was hard to see how a sensation, which having entered the mind, could then cause movement, except under the sponsorship of the will. It was against this supposition of the all pervasiveness of the will with respect to movement that Whytt wrote his treatise on involuntary action. He questioned this absolute despotic control of the will over movement by citing the instance of walking, a habitual action that occurs without the continued exercise of the will or even the knowledge of the person walking. This he argued must be true of all such habitual actions.

In the first half of the nineteenth century it was Marshall Hall (1790-1857) and Johannes Muller who were the

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[2]Edwin G. Boring, A History of Experimental Psychology, New York, Appleton-Century-Crofts, Inc., 1929, p.36.

chief experimenters and therefore contributors to the knowledge of reflex action. We shall have more to say of Muller later. Hall reported his work in 1832 and published it in 1833. Hall was a Scot and a brilliant physician who did very important physiological research.

While studying the circulation in the lungs of a decapitated newt, he discovered that the brainless newt responded to stimulation of the skin. He then tried an experiment on a snake whose spinal cord had been divided between the second and third vertebrae. It too responded to external stimulation. On the basis of these and similar experiments he distinguished four kinds of bodily movements: 1) voluntary movement which was dependent upon consciousness and the action of the cerebrum; 2) respiratory movement which was involuntary and dependent upon the vital center in the medulla; 3) involuntary movement which results from muscular irritability under direct stimulation; and finally, 4) reflex movement, dependent only upon the spinal cord, independent of the brain and with no consciousness. This doctrine of Hall's made a great deal of sense at the time it was proposed and it received wide acceptance. In

its stress upon reflex movements as immediately consequent upon sensory stimulation it prepared the way for the concept of the reflex arc theory which was to come only later.

But the attacks upon Hall's position were not long in coming. The German physiologist Pfluger in 1853, disagreed that spinal reflexes were unconscious. He maintained that consciousness was a function of all nervous action. Furthermore, he indicated that one cannot distinguish between the action of the brain and the cord, and consequently spinal reflexes must be regarded as conscious. He also pointed out that a further evidence for consciousness was the fact that these reflex movements were purposive in that they are always specifically localized and useful to the organism. For example, the frog's leg scratches at the exact point where its skin has been irritated by the applied acid.

In that same year Lotze, a man of whom we shall say more later in this chapter, after a thorough study of Pfluger's monograph took the opposite view. He pointed out firstly, that the evidence for the dependence of consciousness upon the human brain was too overwhelming. Secondly, there was an abundance of human testimony which confirmed the uncon-

acious nature of many involuntary movements. And thirdly, while granting that reflex movements proved to be advantageous in ordinary circumstances, they did not adapt themselves to changing situations. As Professor Boring notes, "in 1853 the conditioning of reflexes was still a half century away in the future."[3] Lotze held that conscious action is purposive because it adjusts the organism to new events. Given his philosophical orientation, it is not surprising that Lotze should have used this introspective method of argumentation.

The problem of whether these reflex movements are conscious is an insoluble one since it centers on the definition that one gives to the term consciousness. The term can be so defined as to either include or exclude spinal reflexes. But both Lotze and Pfluger, writing in a period when dualism was accepted as gospel truth, would not have been convinced that they were dealing with a pseudoproblem that ultimately hinged on the choice of definition. For them, as well as their contemporaries, the 'soul' was mind and con-

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[3] Ibid., p.38.

sciousness, and will and the establishment of its physiological correlates was of extreme importance.

In the second half of the nineteenth century the new 'physiological' psychology was to become a psychology of consciousness. It was in this tradition that William James authored his own work in psychology. Hall's conclusion that reflexes were unconscious was accepted without question and were relegated to the physiologist, while the new psychology concentrated its efforts on voluntary action and reaction times. This division of labor, modelled after the dualistic theory, worked satisfactorily for several decades until Pavlov and Freud later appeared on the scene to question this mentalism which Cartesian dualism had left as its bequest to philosophical posterity. But that story would be to take us beyond our purposes here. Suffice it to say that the man of this period which we are discussing thought of consciousness as something which either exists or does not in a given situation or event, not as but a name for a functional relation such as discriminatory reaction is.

7). <u>The electrical nature of the nerve impulse</u>. Physics and

physiology have aided each other in learning about electricity. In the eighteenth century physics already had the friction machines for generating static electricity and Leyden jars for collecting electrical charges. Benjamin Franklin's experiment with the kite in the thunderstorm was made in 1774.

But the nerve impulse was always thought to be 'animal spirits', or 'vis viva', or 'vis nervosa'. All this changed in 1780, when Galvani discovered that a frog's leg would twitch when the inside and the outside of the muscle of the leg were connected in series with two different metals. From this experiment and others that were similar, Galvani came to the conclusion that animal tissues generate electricity, whereupon he wrote his De Viribus Electricitatis in Motu Musculari (1791). This was the beginning of the belief in animal electricity.

The discovery by Volta in 1800, of a means of producing galvanic currents, led to the construction of the galvanometer which was used for the measuring of these galvanic currents. It was used for the measuring of animal electricity by Matteucci in 1841, who showed that the galvanometer indicates a current flowing when it is connected from the surface of a

muscle to a wound in the muscle. This current was later called the 'current of injury' and also the 'current of rest', because it flowed without observable muscular contraction.

It was on the basis of this work that du Bois Reymond worked out his classical researches on animal electricity showing, by use of the galvanometer, that an electrical impulse in a nerve is an electrical wave of negativity passing down the nerve. A very important consequent of du Bois' work was that the nervous impulse was transformed from animal spirits to the realm of materialistic-oriented science, where it could be dealt with as any another physical phenomenon. In fact, Helmholtz immediately thought that the nervous impulse might not be instantaneous as was supposed, but rather something finite and measurable. This brings us to the next development.

8). Velocity of the nerve impulse. Scientists had always believed that the propagation of the nerve impulse was either instantaneous or at least very rapid. Johannes Muller even thought that it must be comparable to the speed of light. This assumption is perfectly consistent with an introspective method of dealing with physical phenomena. But it does not

accord with the fact that the perception of the movement of one's own muscles lags appreciably behind the conscious act of the will to move that same muscle. Helmholtz measured the velocity of nervous action and found the rate to be much slower even than that of sound, that is, motor impulse travelled at about ninety feet per second and less in a frog's motor nerve. In the case of sensory impulses he found that the transmission was at between fifty and a hundred meters per second. These times were measured more accurately later and corrected by du Bois-Reymond.

The importance of this discovery about nerve impulse for scientific psychology was of tremendous significance. In the period which we are considering, the first half of the nineteenth century, the mind had come to be identified with the brain. But it was otherwise with the personality (person-ego), for this concept seemed to involve the whole organism. As Professor Boring says,

> Everyone thought, as the average man thinks now, of his hand as of a piece with himself. To move his finger voluntarily was an act of the mind in itself, not a later event caused by a previous act of the mind.[4]

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[4] Ibid., p. 42.

The separation of the movement in time from the act of the will that was its cause was tantamount to a separation of the body from the mind. Indeed, it was almost a separation of the body from the 'self' or the person. Here again, the measuring activity of Helmholtz of this bodily motion was but another contribution to the materialistic view of the psycho-physical organism that was the hallmark of nineteenth century physics. To quote Professor Boring on this crucial point again, he says,

> In Helmholtz's experiments lay the preparation for all the later work of experimental psychology on the chronometry of mental acts and reaction times.[5]

But the real effect of his work was to bring the immaterial soul and its non-physical activition to time, measuring what until this point had been 'ineffable'. The once spiritual mind was now the proper subject of study for natural science.

9). The personal equation. Astronomers of this period were discovering that human reaction time was both slow and variable. This knowledge came about when difficulty was experienced in estimating to a fraction of a second the time

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[5] Ibid.

of observation of the transit of a star. Thus they began comparing themselves with each other, writing equations which indicated the average lag of observation for one astronomer as compared to all the rest. This time-lag came to be known as the 'personal equation'. By the 1850s, when the construction of chronographs became possible, the astronomers were able to determine the 'absolute personal equation,' which was the reaction time of the subject in making a movement as rapidly as he possibly can after the perception of a signal. These discoveries that mental processes take time and that these times can be measured had a great deal to do with the reaction-time studies and the 'mental chronometry' that became one of the main characteristics of the new psychology of the latter half of the nineteenth century.

Before we terminate this section of our historical perspective on the intellectual milieu of the 19th century in which William James worked, some general remarks about Johannes Muller, the founder of physiology seem appropriate. We shall deal with him more specifically later; now it is sufficient to note why he is given this distinguished title of founder. He was a thorough investigator but he is best

known for his systematic Handbuch der Physiologie des Menschen (1833-1840). It was an exhaustive work comprising more than three quarters of a million words which exposed all the physiology that was known at the time, as well as containing many original observations and hypotheses. Muller received his doctorate at the University of Bonn in 1822. He remained at Bonn as Privatdozent and professor until 1833, at which time he received an appointment to the chair of anatomy and physiology at Berlin. Berlin was the center of learning at this time on the Continent and thus this post was not only a mark of distinction, but it also served to distinguish Muller as the most prominent authority on physiology at this time. His Handbuch, which was immediately translated into English, became the systematic treatise on physiology that was used everywhere that the subject was taught. It was inevitable that his influence became almost universal in the field of physiology.

Even a cursory examination of the Handbuch would show that in the 1840's there was a great deal of physiological knowledge that was available and most of it, as Professor Boring notes, "is identical in its gross facts with the

accepted physiology of today."[6] Muller's footnotes indicate the great amount of physiological research that was taking place at the time. The book itself is divided into eight books, the subject matter showing the breadth and the depth of physiological knowledge of that day. The first book deals with the circulation of the blood and the lymph. The second book considers chemical matters of respiration, nutrition, growth, reproduction, secretion, digestion, chylification (the milky emulsion of lymph and fat taken up from the small intestine by the lacteals during digestion and passed from the thoracic duct into the veins) and excretion. Books III, IV, V and VI make up what might be termed the experimental physiology of Muller's day. The fourth book is on muscular movement in general and voice and speech in particular; the third book considers reflex action, containing a new doctrine of it. The fifth book is devoted to a consideration of the five senses and contains as well the formulation of the famous doctrine of the specific energies of nerve substances. The sixth book which is entitled Of the Mind, deals with the

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[6] Ibid., p. 34.

psychological topics such as association, memory, imagination, thought, feeling, passion, the mind-body problem, phantasms, action, temperament, and sleep. The remaining two books consider reproduction and development, both in the embryonic state as well as the post-natal period. There should be little doubt concerning the tremendous reputation that this book achieved.

2. The Physiology of the Brain: 1800-1870

Because the brain and its structure play so fundamental a role in the genesis of speculative knowledge, in the doctrine of William James, it is essential to survey what was known about this particular organ of the human body by the physiologist of the nineteenth century.

Physiologists by the end of the 18th century generally agreed that there existed an intimate connection between the mind and the brain. For example, Bichat (1771-1802) held that the brain was the center for intelligence, memory, perception, imagination and judgment. Interestingly enough, he located the emotions in the viscera. Many other French physiologists held similar views and because of their tendency to locate the

emotions in the viscera they can truly be said to be the actual progenitors of the James-Lange theory of the emotions which was to come much later.

The general view of the body-mind relationship was still very much like that which Descartes had taught. The mind, in this view, is held to be related to the whole body and not merely to the brain. Nevertheless, the mind does retain a special point of bodily contact which can be regarded as the center of the mind and the seat of some of its functions. It should be obvious that such a relationship is necessary since the mind expresses itself in action and this action depends upon the nerves which originate in the spinal cord and the brain. It is almost certain that if the emotions has been better known for the actions to which they give rise and not for the visceral disturbances that they produce, these too might have been located in the brain by Bichat and the other physiologists.

The doctrine of phrenology which maintained, as we have seen, that there was a definite relationship between mental characteristics and the shape of one's head, was advanced by Franz Joseph Gall (1758-1828) and at once proved

to have tremendous popular appeal. Phrenology accomplished two things with respect to the advancement of brain physiology and more importantly, it centered attention on the mind--body relationship problem. First, it forced the mind-body correlation to be considered because Gall was so accomplished an anatomist that his teaching and the popular movement that it created could not be ignored by the scientists of the day. Secondly, by going to the extremes that his theory represented, Gall made the somewhat radical work of Flourens seem almost conservative and thus readily acceptable in the scientific community. Professor Boring notes that "without Gall, Flourens might never have conceived the problem of finding different functions for the cerebrum, the cerebellum, the medulla and the cord."[7] Flourens is the most important physiologist associated with the advance of brain-physiology away from the tradition of Descartes and the all too specific doctrine of the phrenologists. Before turning to a somewhat detailed analysis of his work, a few comments must be made about Luigi Rolando (1770-1831), the anatomist after whom the central fissures of the cerebral hemispheres are named.

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[7] Ibid., p. 61.

His reputation is not prominent because his experiments were unconvincing and his theories were vague and essentially incorrect. He published in 1809 the results of his experimentation and speculation which entitled him to claim priority over Flourens in correctly determining the functions of the different parts of the brain. Thus, the cerebral hemispheres are, according to Rolando, the principal seat of the immediate cause of sleep, of dementia, of apoplexy, of melancholia and of mania. He also maintained that the activity of the cerebrum was due to the movement of its fibers and thus made the white, rather than the gray matter, fundamental to psychophysiological functioning. This imputation of movement to the fibers is erroneous as well as the attributing of psychophysiological functions to the white matter. He also localized sensation in the medulla oblongata. The medulla was already known to be essential to life and to it Rolando assigned the function of sensibility. His main experimentation was directed to the cerebellum which he conceived as the organ for the preparation and secretion of nervous energy. Using a voltaic pile, he directed the electric current through the brain substance to the cerebellum with the result that

the muscular contractions became more violent. These results led him to characterize the cerebellum as the battery from w which the nervous energy is derived.

Pierre Flourens (1794-1867) was more precise in his experimental technique, lucid in his writing, and above all else, essentially correct in his conclusions. Professor Boring says of him "that at least he marks a definite step in both method and fact toward what is accepted as truth today."[8] Concerning his personal biography we need only note that at an early date he became a protege of the celebrated Cuvier in Paris. There Flourens lectured on the physiology of sensation and attracted very much attention. He published extensively and finished his career as professor of natural history at the College de France, which was a clear indication of the fame he had achieved.

In his efforts to determine the functions of the dif-- ferent parts of the brain he laid down two guiding principles. The first was that the experiments should bear directly upon the conclusion; more briefly, he sought immediate and direct

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[8] Ibid., p. 63.

observation of a correlation between a function and a definite region of the brain, rather than vague and indirect speculations which were based on the observations of pathological cases or the result of non-empirical rationalistic processes of reasoning.

His second principle called for the isolation of the part of the brain whose function was to be determined. The satisfaction of this principle requires that the experimenter has a clear notion in advance of the functional relationship that is to be studied on anatomical grounds. This method of experimentation, namely, the extirpation of brain parts made Flourens the originator of a very valuable research method in the physiology of the brain.

The following are the six separate units of the brain that Flourens chose for investigation: the cerebral hemispheres, the cerebellum, the corpora quadrigemina, the medulla oblongata, the spinal cord, and the nerves. These are the results which he discovered in his operative procedure.

1). <u>The cerebral lobes (cerebrum)</u>: The function of this region is perception which includes the activities of willing, judging, remembering, seeing, and hearing. He

discovered that the clean removal of the lobes at once abolishes voluntary action. The animal upon which the experiment was performed, if undisturbed, would remain immobile until it finally died of starvation. The bird whose lobes were removed would not fly unless projected into the air. Lobe removal also was found to affect sensorial perception. The animal would not respond to ordinary visual or auditory stimulation. Yet there did remain a sensitivity to light since the pupil of the eye would respond (contract) to strong light. The modern statement of this phenomenon would be that the perception is abolished but sensory discrimination remains. It should be noted that perception holds a superordinate relation to sensation or sensitivity comparable to that which volition holds with respect to the immediate cause of movement. Thus Flourens concluded that the cerebrum is the seat of perception, intelligence and the will.[9]

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[9]There may appear to be some ambiguity here concerning the usage of the terms perception and sensation. The difficulty arises because of the ambiguity of the French 'sensation'. Professor Boring states that "In an attempt to follow Flourens' word rule for securing clarity, the text (Boring's) translates 'sensation' and 'sentir' as meaning 'perception' when reference is to the cerebral hemispheres. The ambiguity

2) The cerebellum. The function of this region is the coordination of the movements of locomotion. With its cerebellum removed, Flourens found that an animal will attempt to walk but falls. It can perceive and will but the accomplishment of the complex coordinated movements of walking, flying or maintaining position are beyond its capabilities.

3) The medulla oblongata. This is the organ of conservation and because of this function it was the vital knot. It is essential to the life of the organism, including the nervous system. Flourens discovered that if the nervous system were divided caudad, that is, at the tail end of a line reaching from the medulla to the tail of the animal, the distal or remote region from the center of the body dies and the proximal region lives. This is equally the case

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of the French 'sensation' is well known, and Flourens uses it in two senses, although his meaning is always clear in the larger context. The sensation that belongs to the medulla or the corpora quadrigemina is bare sensitivity as evidenced in a reflex, like the pupillary reflex. The sensation of the cerebrum is the sensory experience that belongs to perception, contributes to judgment, and is bound up with the will." Boring, op.cit., p. 77.

if the nervous system be divided cephalad, that is, toward the head of the line to the medulla from the tail. Still the distal region dies and the proximal lives. He concluded that the medulla is the conserving center of the nervous system. Furthermore, it groups the sensations before perception occurs and it coordinates the volitions before they are executed in movement.

4) The corpora quadrigemina. These brain regions function for seeing, since without them the animal is blind even though the cerebrum is intact.

5) The spinal cord. It serves as a conductor of the nerve impulses.

6) The nerves. Their role is the reception of excitation which they receive from outer reality.

Professor Boring cites a comment that Flourens makes concerning the basic unity that underlies the operational acticity of these diverse regions of the brain. It is important because it was a view that William James himself held and commented on extensively in his essay Reflex Action and Theism. Flourens says,

> In spite of this marvelous diversity of properties, functions and effects (of the nervous system), they nevertheless constitute of it a unique system. One point excited in the nervous system excites all the others; one point enervated enervates them all; there is a community of reaction, of alteration, of energy.[10]

What Flourens is insisting upon is that the nervous system consists of a unity of two elements, namely, the 'action propre' of each part, and the 'action commune' since the removal of any part of the brain-substance has the effect of reducing the energy of every other. In passing it need only be remarked that this view anticipates the contemporary view that the cerebrum acts as a whole and that its functions must be understood in terms of a field theory.

Flourens' analysis of the brain into its essential unitary parts seemed to be further substantiated by his discovery that small doses of opium would have the same effect on the brain as that produced by the removal of the cerebral hemispheres (cerebrum). Furthermore, the opium produced very observable changes in the appearance of the

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[10] As quoted in Boring, op.cit., p. 65.

in the appearance of the hemispheres. He also discovered that belladonna had the same effect on the corpora quadrigemina, and alcohol on the cerebellum.

His notion that the nervous system acts as a unit seemed to have been borne out by his discovery that the parts can lose a portion of their substance without losing the exercise of their functions and that they can reacquire it (function) after having totally lost it. Professor Boring notes that this recovery of function "after its abolition by the extirpation of a part has constituted the outstanding problem of cerebral psychophysiology."[11] For this reason there has been an alternation between belief in exact regional localization and the field theory, between 'action propre' and 'action commune'.

The work of Flourens can be said to be primarily a vindication and sign of the efficacy of the experimental method. It was as well a telling criticism of the phrenology of Gall with its notorious lack of experimental control, and against Rolando too for his very inadequate research. But

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[11] Ibid., p. 66.

most especially, it told against the philosophers who, according to Professor Boring," reasoned about the nature and seat of the soul without arranging a crucial empirical test."[12] In short, no longer would simplistic, rationalistic, introspective methods of argumentation be acceptable with respect to the mind and its functions.

But in a sense, the work of Flourens was a kind of compromise for the 'action propre' of the six localized parts of the nervous system was an analysis of the brain into functional parts that resembled the work of the phrenologist Gall; whereas, the 'action commune' of the parts taken collectively was an assertion of the unity of the brain, a unity for which the philosophers had always contended.

It was in this manner then that the phrenologists and the physiologists fixed in the first half of the nineteenth century the concept that the brain was the seat of the mind,as well as the fact that the different portions of the brain and their functions are a fundamental and continuing problem for physiology.

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[12] Ibid., p. 66.

3. The Histology of the Nervous System

It may seem somewhat strange that a thesis dealing with psychological and philosophical implications of William James' teachings should venture into the field of histology, that branch of biology that treats of the microscopic structure of the tissues of plants and animals. But a brief description concerning the development of this branch of biology and its consequences with respect to the human brain is essential to an understanding of William James' teaching concerning the origin of our abstract ways of thinking (science, ethics and metaphysics) and epistemological problems that these present.

The vast improvement of the microscope about the year 1830 led to a decade of illuminating histological research. It was Rolando who first thought of cutting thin sections of brain tissue which was then chemically hardend and submitted to microscopic examination. In 1823, Johannes Muller came upon the discovery that potassium bichromate was an excellent substance for preserving and hardening tissue. In 1842, Stilling perfected a method of cutting a continuous series of

tissue sections which enabled the physiologists to study structures like nerve fibers which could then be traced beyond the plane of the section. In 1833, after Lister did the work that resulted in the improvement of the microscope and proceeded to describe the structure of cells, Remak found that the gray matter of the brain was cellular and shortly thereafter, Ehrenberg described the fibers of the white matter. The fiber may be conceived as a fine, relatively long, continuous piece of something, suggestive of a thread. The more technical biological definition is the following: one of the filaments of the fine, elongated bundles that together form animal or plant tissue or parts. We are of course, concerned with the nerve fibers along which the impulses travel like electrical currents.

In 1839, Nasse discovered that a severed trunk degenerates in its peripheral portion only. In 1852, Waller observed that every fiber is connected with a nerve cell, and that the degeneration that Nasse had come upon occurred in the part of the nerve fiber farthest away from the cell. This enabled Waller to devise a method for the tracing of nerve tracts, because, if a tract is severed, its course

away from the center where its cells lie could then be traced by following the peripheral degeneration, no matter what the course of the fibers be, through the complicated structure of the brain and cord. Thus, as a consequence of this histological work, the brain was now seen as a substance composed of an almost infinite number of separate cells, each bearing several processes, and some of these processes giving rise to long fibers, which pass in definite tracts (these will be important in the doctrine of William James) through the brain and connecting the whole mass into a single complicated network. It was an immense tangled skein of fibers that contained in its structure a large number of cells such that the brain could be compared to threads on which beads were strung. Yet the whole mass was arranged in a very definite way. It was along these pathways, the fibers, that the impressions from outer reality were carried.

4. Specific Energies of Nerves

We are now prepared to discuss more fully Johannes Muller's doctrine of specific nerve energies, a doctrine that was to have a profound influence on the epistemology of the

nineteenth century and particularly on the views of William James concerning man's knowledge of outer reality. We have already referred to this doctrine as one of nine important developments in the physiology of this period. Indeed, Professor Boring says of it that "it was the most important law in sense-physiology which these early decades produced."[13] It is most properly associated with Muller's name because he had the most to say about it and was its most vigorous proponent. It is true, of course, that the theory does not represent enti-

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the philosophical principles were known since the time of Descartes and Locke. But it was Muller's great contribution that he gave the theory explicit and precise formulation. Thus, even though he may not have originated it, yet he gave to it the weight of his own personal authority by including it in his famous Handbuch of physiology, thereby assuring it as well a share in the publicity of that important compendium.

By the term 'energy', Muller meant 'quality'. Again,

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[13] Ibid., p.82.

even though it is now asserted that all neural impulses are alike in nature, still the belief persists that different neural systems excite different sense-qualities.

Johannes Muller conceived the doctrine of the specific energies (qualities) of nerves under ten headings or laws. The laws as stated here will emphasize the principles contained in them as well as some empirical and historical data which aids in making the principle more readily understood. The order of discussion of the principles will not follow that given by Muller, but Roman numerals (I-X) will refer to his original numbering of them.

The first and most fundamental principle of this doctrine of specific energies states that the knower is directly aware, not of external objects, but rather of the nerves themselves. This means, of course, that the nerves function as intermediaries between the objects of perception and the knowing mind with the result that the nerves impose their own characteristics upon the mind. Muller's statement of the law is this: "Sensation consists in the sensorium's (cerebrum) receiving through the medium of the nerves, and as a result of the action of an external cause, a knowledge

of certain qualities or conditions, not of external bodies, but of the nerves of sense themselves."[14](V). As he states the law and its principle, there can be little doubt about his meaning, namely, that we do not attain to a direct knowledge of the object. This first principle is of great importance for a clear understanding of Pragmatism's conception of truth, a doctrine with whose formulation William James struggled for several years. Indeed, this first principle is central to the whole theory of knowledge contained in the Principles of Psychology. There will be ample occasion later to examine this doctrine. Here we wish only to cite its historical progenitors.

That the nerves would impose their own nature upon the mind, as Professor Boring notes, " is a necessary consequence of the materialistic view of immediate causes, and of the brain as the organ of the mind."[15] He says that it would appear to be but the physiological counterpart to a Kantian category.

In a similar vein, but dealing rather with the origin

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[14]Cited in Boring, p.82. [15]Ibid., p. 83.

of our ideas in this mediating manner, David Hartley (1705-1757), in his treatise on Observations of Man, which he published in 1749 said,

> The white medullary Substance of the Brain is also the immediate instrument, by which Ideas are presented to the Mind: or, in other words, whatever Changes are made in this Substance, corresponding Changes are made in our Ideas.[16]

Hartley, the founder of associationism, took up Newton's notion of 'vibratory action', using it to reject the then current theory of sensation,namely, that it consisted in the flow of animal spirits in tubes (the nerves) through the body. He maintained that within the brain there were small vibrations in the above-mentioned white medullary substance which were the physiological counterpart of ideas. Larger vibrations in the nerves coming from an appropriate stimulus aroused the smaller ones in the brain, upon which occasion ideas were produced in the mind.

It would be interesting to pursue this whole doctrine concerning the origin of ideas according to Hartley, but it

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[16] Ibid., p. 83.

would take us beyond our purpose here which is simply to show how this first principle of Johannes Muller concerning the cognitive function of the nerves was not so astonishingly new and that when William James dealt with the same problem, this view would be a strongly entrenched one. In fact, the doctrine was already apparent in the famous doctrine of John Locke (1690) concerning secondary qualities. It was he who insisted that if the external objects are not united to our minds when they produce ideas therein, then the perception in the mind must be due to some motion that is continued by the nerves or, according to the usage of that distant day, by animal spirits, or by other parts of the body, to the brain wherein the ideas result. Given this philosophical doctrinal impetus, it should not be surprising that the physiologists, as their knowledge advanced, should seek to locate precisely the exact area of the body from which idea production and arrangement would receive its stimulus.

No less important than this first principle of the doctrine of specific nerve energies is the very principle of specificity itself. The principle deals with the qualitative character of each nerve. Briefly stated, there are five kinds

of nerves, and each imposes its specific quality upon the mind. Muller's statement of the principle is as follows:

> Sensation consists in the sensorium's receiving . . . a knowledge of certain qualities . . . of the nerves of sense themselves; and those qualities of the nerves of sense are in all different, the nerve of each having its own peculiar quality or energy.[17]

This is the fifth (V) law in Muller's enumeration. The sixth (VI) is but a more specific enunciation of the fifth, namely, that each sense has but one determinate kind of sensation and cannot sense those pertaining to the other senses. In this instance as well, we are being informed of really nothing new for the original of this doctrine is to be found in Aristotle's own teaching on sensation, that each sensory power is specified by its own proper formal object found in the stimulus, whatever it might be.

The third principle deals with the nature of the empirical evidence for the first two principles. To substantiate his teaching on specific nerve qualities, Muller

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[17] Ibid., p.84.

brought together illustrations from what was then (1830) considered advanced technique in experimentation as well as from common sense experience. We shall cite this simple empirical evidence momentarily, but before doing so, we would like to state the three laws which Muller devotes to this matter. Law (II) states simply that the same internal cause excites in the different senses different sensations, but in each sense the sensations peculiar to it. Law (III) says that the same external cause also gives rise to different sensations in each sense, according to the special characteristics of its nerve. And finally, Law (IV) acknowledges that the special sensations of each nerve of sense can be excited by several distinct causes internal and external. The empirical evidence which Muller cites for these several laws concerning causes and their effects on the nerves are the following: a blow on the head is usually sufficient to make a person's ears ring or make his eyes flash fire, or make him feel. Any pressure exerted on the eyeball gives rise to the sensation of color. An electrical stimulus is the cause of any one of the five sensations as it stimulates one nerve or the other. From these and other like examples

he demonstrates that the quality of the sensation does not depend on the nature of the cause (it could be internal or external), but rather upon the nature of the nerve which the cause effects. Otherwise, he argued that one should be able to find an electrical sense quality. Such empirical evidence appears to go a long way to dispel the notion of any sort of 'identity' or 'copy' theory of knowledge whereby the knower is said to possess a copy of the extra-mental thing being known. In this view (Muller's) what the knower knows is the qualitative effect produced within the nerve by the stimulus. The quality is the nerve's, and not that of the stimulus. This point is being stressed as it is crucial to an understanding of Jame's theory of knowledge and truth.

The fourth principle deals with the equivalence of internal and external stimuli in their ability to cause sensations through exciting changes in the nerves. It may seem like a trivial point. But in fact, it was needed to explain the distinction that Muller makes between internal and external causation as exemplified in the above-cited three laws concerning the stimulus. Professor Boring notes that it was important to him because, only at this time, had the localiza-

tion of the mind in the brain become unquestionable doctrine and "unless the mind were limited to some restricted portion of the body, any internal condition could be thought of as acting directly upon the mind and not by way of the nerves."[18] It was a matter of vindicating the physiological knowledge of the period and Muller, as has been noted, was the 'founder' of this branch of knowledge so that it should not be surprising that he would want to be precise in his statements of doctrine.

The fifth principle is concerned with an extremely important epistemological problem. The problem arises once the position is taken that the mind is directly aware only of the qualitative condition of the nerves. In such a situation the question that immediately arises is how does the mind become aware of external things which stimulate the nerve endings. To be sure, there is no more fundamental problem in the matter of human knowing.

For Muller the answer to the problem was to be found firstly, in the relation of the nerves to the external ob-

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[18] Ibid., p. 86.

jects, inasmuch as the nerves have definite relations to external bodies.[19] This means that if the external agent did not possess the property of the particular nerve in question, it could not act upon it, that is, no stimulation would occur and hence no cognitional act would result. This view of the correct perception of objects has for its underlying principle the concept of specific irritability or adequate stimulation of the nerve termination. Thus, ordinarily the eye perceives light, but not pressure. However,

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[19]Because this point is so important, I wish to cite Muller's own text as it appears in Boring. "Inasmuch as the nerves of the senses are material bodies, and therefore participate in the properties of matter generally occupying space, being susceptible of vibratory motion, and capable of being changed chemically as well as by the action of heat and electricity, they make known to the sensorium, by virtue of the changes thus produced in them by external causes, not merely their own condition, but also the properties and changes of condition of external bodies. The information thus obtained by the senses concerning external nature, varies in each sense, having a relation to the qualities or energies of the nerve."(VIII). Sir Charles Bell, the very distinguished physiologist (1774-1842) who dealt with this problem at an earlier date said: "It is provided, that the extremities of the nerves of the senses shall be susceptible each of certain qualities in matter; and betwixt the impression of the outward sense, as it may be called, and the exercise of the internal organ, there is established a connection by which the ideas excited have a permanent correspondence with the qualities of bodies which surround us." It should be stressed that the 'ideas' are of the qualities of bodies and not of bodies taken as wholes. Boring, op. cit., p. 87.

exceptionally, it may perceive pressure, but then it would perceive it as color. In such an instance, pressure is not actually an 'inadequate', but a less adequate stimulus to vision and frequently leads to illusion.

The point to be emphasized here is that with this newly formulated doctrine Muller was "shifting the old problem of the perception of objects from explanation by representation of the object in kind, to explanation in terms of specific functional relationships between terms (object and its perception) which do not necessarily resemble each other."[20] The non-resemblance aspect introduces the ambiguity in knowledge of the extra-mental world.

We shall see this same problem later when James' doctrine of pragmatism is discussed, but at that point in time, some fifty years after Muller, science will have become more specific about the nature of the extra-mental world, conceiving it as swarming masses of atoms and molecules with the result that the resemblance between what is in the knower and the thing known becomes tenuous indeed.

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[20] Ibid., p. 88.

The sixth issue that Muller took up was concerned with the problem of the locus of the specific principle, whether it is in the nerve or at one or the other terminii, that is, in the sensorium or the end-organ. Muller had no definite answer to the particular question. He wrote,

> It is not known whether the essential cause of the peculiar 'energy' of each nerve of sense is seated in the nerve itself or . . . in the brain or spinal cord; but it is certain that the central portion of the nerves included in the encephalon (the brain) are susceptible of their peculiar sensations.[21]

This was Law (VII) of Muller's specific nerve energy theory. Here again, Sir Charles Bell anticipates Muller's view. He says that "all ideas originate in the brain," and that "directly they are consequences of a change or operation in the proper organ of the sense which constitutes a part of the brain."[22] This problem of locus is thus another step in the direction of the eventual localization of sensorial function in the brain and the consequent emphasis on certain areas from whose stimulation 'ideas' would result. Thus, the mechanization of the mind seemed like an inevitable result.

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[21] Ibid., p. 88. [22] Ibid.

The last law needs only brief mention. In it Muller stressed that the mind had a direct influence upon sensations so that it could through attention increase the intensity of the specific sensation. Thus, for example, we can attend to certain parts of the visual field to the exclusion of others or to the specific parts of the tactual field. The same discrimination could be made with respect to time in the case of hearing. But as Professor Boring points out that this matter was almost a gratuitous addition to the central doctrine on specific nerve energies and only serves to show the great concern for completeness which Muller sought in his famous compendium, the Handbuch.

The epistemological implications of this doctrine were of prime importance in the development of physiology and psychology for the remainder of the nineteenth century. We may leave the matter at this point and turn to the next doctrine which was influential in the formation of William James' thought.

5. The Theory of Evolution

There remains but one final doctrine to be considered and though it comes last in the chronology of treatment that we have followed, it is perhaps the most significant in terms of the influence that it exerted on the thought of William James. We are speaking of the theory of Evolution as it was proposed by Charles Darwin. Before we come to him and his particular formulation of the doctrine, some historical perspective on the hypothesis may be profitable in showing the unique contribution that he made.

It was the hallmark of eighteen century thought to accept the notion of the fixity of species according to which every existent species of animals was the result of a special act of creation on the part of the deity. The wide acceptance of the belief stemmed from the fact that it was in perfect accord with the Biblical account of the origin of animal life and its continued preservation in the ark of Noah at the time of the deluge that covered the whole earth. It is true that there were men who proposed another view, namely, that development of one species from another and of intermediate

forms, but they met with little success either in the formulation of their hypotheses or in the acceptance of their proposals. But at the end of the eighteenth century the problem became acute since geographical explorations revealed so vastly an increased number of species that it was no longer possible to conceive that Noah had crowded a pair of each into the ark. In a word, Biblical authority was beginning to wane and the men of science were ready to go to work.

Several men preceded Darwin in offering what might be considered preparatory steps toward a full-blown evolutionary concept of the origin of species.

Among these was Goethe (1749-1832), the German poet, who proposed the theory of the metamorphosis of parts. After considerable observation of plants, he concluded that different forms of a plant can be created by the change of one part into another form. He even extended the theory to animal life, proposing that the vertebrate skull is essentially a modified and developed vertebra.

Erasmus Darwin (1721-1802), the grandfather of Charles Darwin, independent of Goethe, conceived the notion of the transmutation of species.

But the truly great figure in this history of the emergence of the evolutionary hypothesis was the French naturalist, Lamarck (1744-1820), who first published his views on this topic in 1809, a date which places him within the nineteenth century. Lamarck proposed that the animal form was modified as a result of effort by the animal to further adapt to its environment, and the subsequent inheritance by its progeny of these newly acquired environmental modifications. Thus, for example, if a short-legged bird gains a living by fishing while standing in shallow water, it will, when the fish become scarce near shore, wade in just as far as the length of its legs will allow. The Lamarckian hypothesis was that by the bird's efforts to go deeper and deeper, its legs would stretch by tiny but cumulative amounts. The bird would, in fact, strengthen them by straining them and thus cause them to grow a bit longer. The same would apply to the giraffe with its very long neck and slender limbs. In both cases, if its progeny were to inherit this tiny increment, and continue all the while the same adaptive effort, the final result (after many generations) would be a long-legged bird and animal like the giraffe.

Baron Cuvier (1769-1832), another famous French naturalist already mentioned in connection with Flourens, vigorously argued against the position of Lamarck, maintaining the fixity of species from the moment of creation. His own contribution to the evolutionary hypothesis was the notion of the correlation of parts, that is, that the adaptation of a species to its environment and mode of living was reflected in certain relationships of use among its parts. Thus a carnivorous animal needs not only sharp teeth but also legs for the swift movement of attack. But fundamentally, Cuvier thought of even this adaptation of the species as one given in its moment of creation and not as characteristics acquired through its own adaptive efforts. Cuvier's influence was so great that he was successful in blocking the wide acceptance of the Lamarckian view.

It was the celebrated Charles Darwin (1809-1882) to whom belongs the distinction of having put forth a far-reaching and plausible theory of the evolutionary origin of species. It was, and is still considered by a good many people as the greatest scientific achievement of the nineteenth century because of its profound affect upon every

aspect of thought and culture. It was especially devastating with respect to the account of man's origin as contained in the opening chapters of the Hebrew-Christian scriptures.

Darwin was born in England in the year 1809. In the year 1825, he went to Edinburgh University to prepare for the medical profession, but some time later came to the conclusion that he was not suited for it. In 1828, he entered Christ's College at Cambridge to prepare for the ministry and was graduated in 1831. The one great advantage that he did obtain from his years at Cambridge as a divinity student was the gaining of friendship with the prominent scientific men of the period.

From December, 1831, to October, 1836, he was a naturalist on the momentous voyage of the H.M.S. Beagle. The trip was momentous because it was a preparation for Darwin's lifework. His observations and their diligent recording on the relationships between geographically separated animals (forms on the islands and the contiguous mainland) and the time-separated animals (living and recently extinct forms, related to but not the same as extant

animals) led him to reflect upon the prevailing view of the fixity of species.

The reading of T.R. Malthus' Essay on the Principle of Population, in October, 1838, convinced him that the struggle for existence among steadily increasing populations, so well therein described, was the circumstance in which favorable variations would tend to be preserved and the unfavorable ones destroyed. At last, he thought, the origin of new species could be explained - scientifically explained.

In 1844, he made a manuscript outline of his theory of the origin of species; but stored it away, with the proviso that it be published in the event of his death.

He continued his observations to gain further evidence for his theory and revised his notes time and again. In the year 1856, he began the writing of his large treatise on the theory when his friend Alfred Russell Wallace (1823-1913) sent him for publication a paper putting forth the same view of the origin of species without, however, the vast observational data to support the theory which Darwin had accumulated. This was a most embarrassing and sensitive issue to say the very least. The matter of authorship was

finally settled by the presentation of a joint essay on natural selection to the Linnean Society containing the views of both Darwin and Wallace.

The event spurred Darwin on to finish his book, which he published in November, 1859. The work was entitled On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life.

As we have seen, others before Darwin had conceived and proposed the idea of evolution, but none had thought it out and marshalled the empirical evidence in a manner comparable to his. It was no surprise that the book should have caused a storm of controversy. His work demonstrated that the evolution of plants and animals, and the adaptation which they show, provides no evidence of divine or providential guidance or purposive design, because natural selection of fortuitous variations gives a scientifically satisfactory explanation of evolution without the necessity for miraculous interposition or supernatural interference with the ordinary laws of nature. An inevitable conflict ensued between the defenders of the orthodox revealed religion and

the scientists. Yet, in the midst of it all, Darwin remained imperturbable, and was very ably defended by many men of science, of whom Herbert Spencer and Thomas Henry Huxley were perhaps the most famous.

Darwin's hypothesis was, like many great ideas, simple when viewed in retrospect. It begins with the obvious fact of variability among individual animals of the same species. Darwin concluded that this 'spontaneous' variability is sometimes of such a nature as to be capable of transmission to the next generation. He had clear evidence that animal breeders could, cumulatively through many generations, produce great changes in a breed by selecting in accordance with such 'chance' variation. The first four chapters of the Origin of Species explains in almost tedious detail the operation of artificial selection by man and natural selection in consequence of the struggle for existence. He, therefore, simply assumed that in nature we have a 'natural selection' by way of the survival of the animals which are best fitted for their environment and the requirements of their living. Thus, he concluded that in the millions of years of time since past, natural selection together with gradually changing environ-

mental conditions has given rise to new species. These species would not be as divergent as was originally supposed, but would rather form continuous orders, and their present relative differences in make-up implied that in any cross-section of time the various animal forms would exist as approximately adapted to the various conditions under which they live.

The points of divergence between Darwin's teaching on this matter and that of Lamarck consisted of the following points: 1) Darwin assumed that inheritable variation occurs spontaneously or by chance, and not as the result of the adaptive effort of the organism as Lamarck proposed; 2) Darwin recognized that selection is natural to the struggle for existence in which all animals engage (here he was using Malthus' theory on the limitation of populations by natural forces), and 3) Darwin substituted the chances of variation and of survival for Lamarck's definitely directed adaptive effort.

One consequence of Darwin's theory was the necessity to assume a much longer time for the emergence of a new species. This too was a controversial issue with the reli-

gionists who held for the 6,000 years of Biblical time that was to have passed from creation to the nineteenth century.

Darwin's later writings included The Descent of Man, and Selection in Relation to Sex, (1871). It was but the natural sequel to the Origin of Species, and the fulfillment of his earlier promise that the latter work would throw much light on the origin of man and his history.

The effect of this theory upon the development of psychology was tremendous. As Professor Boring notes,

> Not only did the theory challenge the authority of Genesis in respect of the special creation of species, suggesting that man has inherited his body from animal ancestors, but it also raised the question as to whether there is continuity in respect of mind between animals and man.[21]

Darwin firmly believed in this continuity and in his book entitled The Expression of the Emotions in Man and Animals (1872), he offered empirical evidence for this view. But after all is said and done, it must be granted that the animal emotions which he cited as primary evidence consisted more of behavioral attitudes, v.g., the friendly cat, the

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[21] Ibid., p. 471.

angry dog, rather than an animal consciousness resembling something that might serve as an ancestor of the human soul, the kind which nineteenth-century religious orthodoxy required.

A much more subtle influence was that which Darwin's evolutionary theory exercised on American psychology. Professor Boring well remarks that "It (American psychology) had inherited its physical body from German experimentalism, but it had got its mind from Darwin."[24] America in the last half of the nineteenth century was still a very new country with a vast, unpopulated frontier in the West, which had just barely been extended to the Pacific Ocean. It was a country of pioneer spirit and the readiness to accept change. There was in this vast new land an understandable lack of veneration for the old and the traditional, associated with the conviction that usefulness is the chief good. In such a country, where there is free land for the venturesome, it is the fittest who survive, those, namely, who are strong enough to wrest a living from nature. In this rugged atmosphere of wagon-trains

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[24] Ibid., p. 506.

loaded with pioneers heading West it was only natural that Darwin's theory would receive enthusiastic reception among the savants. As we shall later see, William James in his own character expressed this rugged, pioneer spirit in his love for nature untainted and his view of the outer world as one which was basically unfriendly to man and had to be struggled with at every turn of the road.

In any event, Darwin's theory was greatly responsible for the functional direction which American psychology took, whereby it assessed mind and mental activity in terms of use (function) and the survival value. It was William James who first saw psychology this way. The functional meaning of mind permeates the writings of William James as we shall see. And the Darwinian principle of 'variation', a liberalizing factor which is present in all forms of life, will be used by William James to explain the brain-born mental differences that exist between individual men. All of this shall be seen in due course. All that we note here is that the America of the late nineteenth century was ready for both evolutionism and functionalism and that in accepting the new scientific psychology of Germany, it reshaped it effectively and radically into a

psychology of use. In a word, it made it pragmatic. And William James was that maker.

Part B: Influential Predecessors and Contemporaries

No one source could possibly explain the intellectual make-up of William James. But his conception of the kind of science that psychology should be was unquestionably influenced by what was transpiring in the German universities during the first half of the nineteenth century. A new psychology was emerging with rigid experimentation as its methodology and the young William James was not slow in recognizing its value. On this point, Professor Boring comments, "James began psychology in America with his recognition of the significance of the experimental physiological psychology of Germany."[25]

There are three men who are historically associated with the formal beginnings of experimental psychology and each was well known by James, if not personally, at least through their writings to which he frequently refers in his Principles of Psychology, a work which did not appear until 1890, long after these men had written and published their principal works

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[25] Ibid., p. 505.

expounding their firm doctrinal positions. The references to these men in the Principles are extensive, and even though he more often disagreed with their doctrines rather than agreed with them, yet he considered them sufficiently important to take cognizance of their positions.

As has been stated, it was the methodology of psychology rather than the doctrine that we wish to emphasize with respect to the work of Fechner, Helmholtz and Wundt. But it is impossible to avoid all discussion of doctrine for some of it clearly exemplifies the new methodological approach to the old subject matter previously in the domain of philosophy.

Gustav Theodore Fechner
(1801-1887)

We begin with Gustav Theodore Fechner, whose rigorous experiments laid the foundation for the new psychology and still lie at the basis of its methodology.

Fechner first acquired some reputation as a professor of physics at Leipzig. In terms of personal preference his inclination was toward philosophy. But his fame was achieved through his psychophysics; a fame, it might be added, which was thrust upon him, for it is certain that he did not wish to be

remembered as the founder of psychophysics.

Fechner was born in 1801 in a little village in southeastern Germany. The early influences in his life were religious as his father was a village pastor, upon whose death he went to live with an uncle, who was also a Lutheran minister. At the age of sixteen he matriculated in medicine at the University of Leipzig, the place where he remained for the next seventy years, the remainder of his life.

After five years of study, Fechner received the medical degree in 1822. Upon the obtaining of this degree his interest shifted from the biological sciences to physics and mathematics. The next ten years were marked by a prodigious production of articles on physical science and culminated with his appointment to a professorship in physics in 1834. During this period, however, there was already manifested a quasi-psychological aspect to his work. This was indicated by the publication of two papers on complimentary colors and subjective colors in 1838, and his famous paper on subjective after-images in 1840.

But his intensive work of this ten-year period took its toll. According to William James, Fechner had developed a dis-

ease which he diagnosed as a 'habit-neurosis'. There was also the matter of severe injury to his eyes resulting from his research on after-images, which consisted in gazing at the sun through colored glasses. The result was complete prostration necessitating his resignation of the chair of physics in 1839. For some three years he suffered great pain and became a recluse, cutting himself off from contact with everyone. This is so reminiscent of the 'crisis' which William James was to experience in his own life and for almost the same length of time.

In Fechner's case the 'crisis' seemed like a premature end to a very promising career. But in an almost miraculous manner, Fechner began to recover. Yet this period of enforced invalidism had a profound effect upon his thought and after-life. It resulted in a deepening of his religious consciousness and a vital interest in the soul. It was, thus, only natural that he should turn to philosophy at a period of time marked by the ascendancy of materialistically oriented science. At such a time, it was risking scientific unpopularity to argue for the mental life of plants at a time when Darwin was seriously questioning the mental life of animals. But he felt a sort

of philosophic mission and under its impulse he could not remain silent despite the presence of an insistent materialism.

For him, the philosophical solution of the mind-body problem lay in the affirmation of the identity of these characteristics. Thus the entire universe, he argued, could be regarded from one point of view as consciousness, just as it could be viewed from another as inert matter.

In 1851, the important work Zend-Avesta appeared and its general purpose was that it should be a new 'gospel'. The title itself meant "a revelation of the word". Fechner argued that 'consciousness' is "in all and through all". He conceived the earth after the concept of 'the mother of all'; a being just like all men, but much more perfect than human beings. He insisted that the soul does not die; nor could materialism deny its existence when all being is conceived as conscious. It should be noted that Fechner's arguments concerning the soul - its existence and nature - were not rigorous demonstrations as such. They tended to be more in the nature of persuasions which were developed by the use of analogies.

Fechner issued his Gospel in a series of seven books

which appeared from 1836 to 1879, but the public never responded to these calls to attend to the new gospel as Fechner thought that they would. Briefly stated, his philosophy received some attention, but it was his work as a psychophysicist that remains of lasting value. Yet his psychophysics was a consequence of his philosophy. And it is to it that we must now turn.

Fechner was convinced that if his 'new' philosophy were to be acceptable to a scientific-minded age, it would need to have a solid scientific foundation. Professor Boring has expressed this point very well when he says:

> It was one thing to philosophize about mind and matter as two alternative ways of regarding everything in the universe, and another thing to give the idea such concrete empirical form that it might carry weight with the materialistic intellectualism of the times or even be satisfactory to Fechner, the one-time physicist.[26]

As it so frequently has happened with philosophers who are deeply engrossed with what to them seems a 'critical' problem, Fechner, on the morning of October 22, 1850, while lying in bed thinking about the body-mind problem, suddenly

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[26] Ibid., p. 279.

beheld the general outlines of a solution.

The solution was a simple one, namely, to make the relative increase of bodily energy the measure of the increase of the corresponding mental intensity. We have here Fechner's clear conception of the nature of psychophysics: an exact science of the functional relations or the relations of dependency between body and mind. This functional conception of body-mind relationship was the 'raison d'etre' for the entire undertaking of formulating a psychophysics.

It must be stressed that Fechner's view of the relation of mind and body was not one of psychophysical parallelism, but was rather that of 'identity hypothesis' or pansychism. Fechner felt that if it were possible to write out an equation between the mind and the body in terms of a physical law (v.g., that an arithmetic series of mental intensities would correspond to a geometric series of physical energies) this would be a virtual demonstration of both their identity and of their fundamental psychic character. In short, any duality suggested by the terms would disappear by the writing of the true 'equation' between the two terms. But as Professor Boring has noted on this point,

> Fechner's psychophysics has (rather) played an important part in the history of psychophysical parallelism for the reason that the mind and body, sensation and stimulus, have to be regarded as separate entities in order that each can be measured and the relation between the two determined.[27]

It was a result far different from the one that Fechner had so cherished, the vindication of a psychic identity between mind and body. He seemed to be doing just what the materialists were most eager to establish, that both mind and body could be treated in a quantified, material way, the conclusion being that there was no distinction between them.

What Fechner's law does then is represent a functional relation between the measured magnitude of stimulus and the measured magnitude of sensation.

It would be to go beyond the purpose of this treatment of Fechner's contribution to the founding of the new experimental psychology if we were to treat in detail the nature and kind of experimentation that he used to establish the identity between mind and body. It is sufficient to note that he felt that he had succeeded in so doing and thus fulfilled his

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[27] Ibid., p. 293.

philosophic mission of combating materialism.

But the great thing that he did accomplish was a new kind of measurement. It is not important what it was that he did measure, whether it was the psychic aspects of sensations or just sensation itself, and on this point there is much debate. The fact is that he conceived, developed and established 'new methods of measurement' which in essence were mental measurements that opened the way for the establishment of a quantitative experimental psychology.

It must also be pointed out that William James thought little of Fechner's accomplishment; in fact, he held that the outcome of all his labor was simply nothing. But he did grant that Fechner's work opened up a new department of literature. But one must agree with Professor Boring in his opinion that Fechner's measurements gave the right 'tools' and guidelines to the experimental quantitative psychology. He (Boring) says,

> Moreover, the methods have stood the test of time. They have proven applicable to all sorts of psychological problems and situations that Fechner never dreamed of and they are still

> used with only minor modifications in the greater part of quantitative work in the psychological laboratory today.[28]

In this sense, he may properly be designated the founder of experimental psychology. As has been noted, William James knew Fechner's monumental Elemente der Psychophysik, and though he may not have estimated its content as of any value, the empirical methodology was certainly to his liking, for he admits that it would be impossible to match it for its qualities of thoroughness and subtlety.[29] In the light of subsequent history, one must conclude that Fechner did little in the cause of the soul.

Hermann Ludwig Ferdinand von Helmholtz (1821 - 1894)

We now turn to Hermann Ludwig Ferdinand von Helmholtz who was one of the greatest scientists of the nineteenth century. William James thought so highly of him that he went to Heidelberg to study under him but the condition of his health prevented the establishment of direct contact. But the important thing is that William James knew his doctrine through

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[28] Ibid., p. 293. [29] William James, Principles of Psychology, Dover Publications, Inc., 1950, New York, Vol.I,p.549.

his work.

Helmholtz was primarily by interest and temperament a physicist, but his first research was in the field of physiology. But no man of the genius that Helmholtz possessed, working in the field of physiological research in the Germany of the 1850's and the 1860's, could have avoided contact with the problems that confronted the physiological psychology of this particular period. Thus it was that the physicist was drawn into the field of the new emerging psychology and along with Fechner and Wundt came to be known as one of the founders of the new experimental psychology.

Helmholtz was born in Potsdam, near Berlin in 1821. His early education was not outstanding, nor was he an exceptional student. But this may have been the result of his father's efforts to interest his son in the Humanities when it was quite obvious that Helmholtz' interests were in the line of mathematics and science.

At the age of seventeen the young Helmholtz was quite certain that he wished to be a physicist, But there was the pressing problem of securing a livelihood, and because his father had been in the army, it was arranged that Helmholtz

would enter a medico-chirurgical institute in Berlin to train as a surgeon in the Prussian army. He remained in this medical environment until his 28th year. But his passion for science was not at all diminished during this time. He established contact with the academic community at the University of Berlin. The great names in physics and physiology were among his acquaintances: Magnus, professor of physics; Muller, professor of physiology. There were as well the contacts with students who were to become the great professors in these two fields: Brucke, future professor of physiology at Vienna; Virchow, future professor of pathology at Berlin; Ludwig, future professor of physiology at Leipzig; finally, Bois-Reymond, future successor of Muller to the professorship of physiology at Berlin.

Helmholtz was also during this medical period beginning his writings which would number some two hundred articles and books before he terminated his career.

In 1842, he published his medical dissertation on nerve cells which foreshadowed the 'neuron' theory. In 1847, while yet an army surgeon in Berlin, he read his famous paper on the 'conservation of energy' before a body of physicists. Helmholtz

did not 'discover' this theory. It had already been demonstrated by Joule that heat had a mechanical equivalent. What Helmholtz had done was to give the theory a mathematical formulation. In this task he was being the physicist within the field of physiology, for as Professor Boring remarks:

> One of his motives was to show that this principle works within the bodily machine, that the living organism is no exception to the laws of physics.[30]

The 'law' caused discussion and dissension. The older physicists discounted the importance of the formulation. But the younger and newer physicists rallied to the defense of Helmholtz and claimed his 'law' was a crucial advance of human knowledge. But it must be pointed out that the idea of the body being conceived as a machine was certainly as old as Descartes.

Parenthetically, it should be noted that in 1845, two years prior to the publication of the Conservation of Energy paper, Helmholtz along with Ludwig, Bois-Reymond, and Brucke formed a pact to fight the forces of vitalism, the view that life involves forces other that those found in the interaction

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[30] Boring, op. cit., p. 299.

of inorganic bodies. These four young scientists pledged to establish and compel the acceptance of this truth that no other forces than the common physical chemical ones are active within the organism. It was in support of this thesis that Helmholtz published the paper on the conservation of energy.

In 1849 Helmholtz accepted the professorship of physiology and general pathology at Konigsberg, a position which he occupied for a period of seven years. At Konigsberg he made his first important scientific contribution which consisted in the measurement of the rate of conduction of the nervous impulse; (this has been previously seen when we discussed nerve conduction). It was here as well that his interest in problems of sensation began to take shape.

In 1856 Helmholtz went to Bonn for two years as professor of physiology. In 1858 he occupied the same professorship at Heidelberg and remained there until 1871. It was during this professorship that William James had planned to assist at Helmholtz' lectures, for this period was the high point of Helmholtz' investigation into the physical physiology of sensation, and James at this point in his own educational

development was immersed in physiology.

During the years 1856-1866, the great classic of experimental psychology, the Optik, was making its appearance in separate volumes. To its main doctrines we shall shortly return. But its great virtue was to show the workings of a physicist within sense-physiology.

Upon the death of Magnus in 1870, Helmholtz was called to Berlin as professor of physics, an appointment which at last realized the fulfillment of his youthful desire to be a physicist. In Berlin he remained until his death in 1894.

A few comments are appropriate on the doctrine of Helmholtz in order to illustrate the methodological orientation of his psychology which we have already indicated to be much influenced by his inclination to physics. As Professor Boring has well remarked, "he (Helmholtz) thought of psychology as essentially physiological and of physiology as essentially physical."[31]

The great contribution of Helsholtz to the new experimental psychology was his most influential work on sensa-

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[31] Ibid., p. 303.

tion, namely, the Optik. Even today it is considered as 'gospel' in this field. The three volume work is broad in the range of its content. It has been designated as a physical, physiological and psychological treatment of vision.

A less extensive work, but no less in scientific worth, is the Tonempfindungen, which was published in 1863. It is the classic text on the psychology of tone. It contains Helmholtz' account of auditory stimuli, a discussion on the anatomy of the ear, and the resonance theory of hearing. What Helmholtz showed with these two monumental works, dealing with the sense of sight and hearing, was the extent of achievement by way of research if one used the scientific method that had first been used by Fechner. The road that psychology must travel was clearly marked if it was to become a truly scientific endeavor. The experimenter needed only to get to work.

Helmholtz appeared to be opposed to mentalism as equally as he was opposed to vitalism. The ground of this opposition was his conception of psychology as an exact science which was dependent upon mathematics as its tool, and upon experimentation for verification of its findings.

Thus Helmholtz was a psychological empiricist, and in this sense, is more in the tradition of John Locke and the

Mills rather than the Germanic philosophical tradition of Leibnitz, Kant and Fichte. The Germanic philosophical tradition of this period put the emphasis on 'intuitionism - - 'innate ideas' - 'a priori' judgments - native categories of the understanding. Whereas British psychology was entirely empirical, insisting upon the genesis of ideas in the mind as a result of individual experience.

We shall have occasion later to see how William James seemed to combine the approaches to knowledge represented by these two schools. For it is inconceivable that a man of his vast erudition would have been ignorant of these conflicting viewpoints concerning the genesis of human knowledge, both of the singular fact and our general and abstract ideas. Indeed, Professor James called himself a 'radical empiricist'.

Helmholtz then took his stance with the empiricists. And one of the first doctrines that he undertook to combat was that of Fichte who had centered his philosophy on the Kantian notion that time and space were 'a priori' intuitions. Let it be realized that for Kant, space was an 'innate' form of outer sensibility which was imposed upon the incoming phenomena with the result that they were spatially distinct. It is interesting

that Helmholtz formulated the empirical theory of space in 1855 while he was at Kant's University, Konigsberg. His view simply maintained that the notion of space is generated in experience. While he granted that the 'innate' theory could not be disproved, he also pointed out that is was no theory at all for it said nothing about space except that it was not generated in experience.

In a similar vein, he undertook to refute the position of both Kant and Fichte concerning geometrical axioms which these philosophers held were also the products of 'a priori' intuitions. He showed that they too were products of experience.

The most important part of his theory of perception is the 'doctrine of unconscious inference.' As an illustration of this phenomenon we can take the instance of stereoscopic vision. According to Helmholtz, a geometer who possessed all the data of retinal disparity and binocular parallax (deviation) could calculate the depths of distant objects. But a perceiving subject makes the calculation of depth instantly by 'unconscious inference'.

Helmholtz was arguing in effect that such instantane-

ous awareness indicates that perception may contain much experiential data that is not immediately represented in the stimulus, and every psychologist who has studied illusions would certainly support this thesis. He argued, furthermore, that those aspects of the perception that are not immediately representative of the stimulus must be additions which accrue to the perception as a consequence of the perceptions from past experiences. To these unconsciously determined phenomena he gave the name 'inferences'; and to both affirm and deny their inferential nature, he added the term 'unconscious'. But this should not be taken to imply any kind of innate origin of these inferred phenomena, for Helmholtz adopted this theory as an essential phase of his empiricism.

The best account of the theory is to be found in the third volume of his celebrated work the Optik. There he says concerning outer phenomena that the psychic activities by which we arrive at the judgment that a certain object of a certain character exists before us at a certain place are unconscious activities as well. By this he means that in their results (that something is there outside of me) they are similar to 'inferences' (and this next should be well noted) since

we achieve the idea of a cause of the effect on our senses by way of the observed effect on our senses, "even though in fact it is invariably only the nervous excitations, the effects (on our senses) that we can perceive directly, and never the external objects."[32] We have already seen this doctrine when we discussed Muller's theory of the specific energy of nerves. It appears in the doctrine of Helmholtz as a classic instance of 'unconscious inference'. Given his physiological orientation it is not surprising that he should have accepted Muller's doctrine on this point. Finally he notes that he is ascribing to these inferences (of external objects, and objects in depth) the adjective 'unconscious' in order to distinguish them from inference in the ordinary sense of the term, that is, an act of conscious thinking, v.g., as when an astronomer computes the position of stars in space, their distances from the earth, etc., from the images he has of them at different times and at different points in the earth's orbit.

Helmholtz has three definitive statements to make about these inferences.

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[32]Cited in Boring, Ibid., p. 309.

1). Unconscious inferences are normally irresistible. By this he means that experiences like those of color contrast and the singleness of binocular vision come immediately and universally and they cannot be modified, at least easily or ordinarily, by an effort of thought. As unconsciously produced effects they cannot be altered or corrected by an act of conscious reasoning.

2). Unconscious inferences are formed by experience. This second point keeps the doctrine within the scope of empiricism. For Helmholtz conceived these inferences as being at first conscious perceptions and only later, by association and repetition, develop into unconscious inferences. This view is in perfect accord with contemporary introspective psychology which holds that any conscious state, by simple repetition and under the influence of habit, becomes telescoped as it were, and reduced until the process is largely or entirely unconscious. Thus, Helmholtz' teaching here is but the principle of the decay of consciousness under the force of habituation.

3). Unconscious inferences are, in their results, analogous to conscious inferences which justifies induction.

This point is the least important and it only implies that analogical induction is possible by means of these unconscious inferences. In a word, unconscious inference, like conscious inference can by analogy lead to a conclusion about a novel case.

Our final comment on Helmholtz' doctrine concerns his fundamental theory of perception. The bare sensory pattern which is directly dependent upon the stimulus-object was called a PERZEPTION. These, however, were very rare, since the PERZEPTION was almost always modified and supplemented by the imaginal increments dependent upon the memory of previous experience and induced by the unconscious inferences which we have just discussed. These increments made the PERZEPTION into what Helmholtz called the ANSCHAUUNG. By the latter, objects are correctly perceived and truly identified. Where the sense impressions are entirely lacking and there is only the imaginal equivalent of the ANSCHAUUNG, then the experience is properly called the VORSTELLU NG, the German equivalent to the English term IDEA. But these VORSTELLUNG lie outside the universe of discourse; since they could not be directly related to it because of this lack of contact with sense impressions

they seemed to resemble a Kantian category. For Helmholtz the key to perception was the ANSCHAUUNGEN - which involved both sensation and imagery as well as stimulation and unconscious inference.

Like Locke and John Stuart Mill before him, Helmholtz had something to say about the nature of the 'object' of sensation. For him it was nothing more than an aggregate of sensations formed in experience simply because they habitually occurred in this arrangement. The analysis of the object into its sensory elements is brought about by a special act of attention. This was the commonly accepted theory of the object in empirical circles. But Helmholtz advanced a little farther by saying that the object is built up in experience by a kind of mental experimentation so that we discover by trial and error which sensations can be changed by the will and those that cannot. This is necessitated by the fact that there is no direct awareness of the object, only the nervous excitations which they produce in us, as we have already seen. Those sensations that cannot be changed are attributed to the objects as its permanent properties.

Thus the 'properties of objects' are merely their effects upon our senses, or better, the relations of the objects

to the organs of sense. This is essentially like Locke's doctrine of secondary qualities.

Since we do not perceive objects directly there is a question with respect to their permanence. Helmholtz maintains that the permanence of objects results from mental experimentation as well. Objects cannot be affected or changed by the will except that they be made to disappear. Upon their disappearance they can be made to reappear by an act of the will which consists in bringing them again into relation with the sense organs. Thus we turn our heads and the objects go; we turn the head back in the direction of the former object and it appears again. Helmholtz says that we then conclude that it must have been there all the time. Professor Boring comments that he

> . . . in all these matters was influenced by John Stuart Mill, and we seem to have in his theory of objective permanence only an incomplete view that objectivity depends upon the conception of the permanent possibilities of sensation.[33]

His study of the laws of perception led Helmholtz to make some trenchant comments on the nature and limitations of

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[33] Ibid., p. 313.

scientific observation. It is cited here because it brings into relief the problems concerning 'truth' which William James wrestled with and caused to seek a solution in the direction of Pragmatism. When later that doctrine is discussed in this thesis, it will be seen how intimately its origin was connected with this matter of perception of outward objects and the role of the knower in this process.

Helmholtz noted that in scientific observation we ordinarily deal with the ANSCHAUUNGEN and not the 'pure' PER-- ZEPTIONEN. This meant that observation depended upon 1) the past experience of the observer, 2) his unconscious inferences and 3) the inevitable resultant modification of the incoming sensory data. For this reason two entirely different observations are possible with respect to a similar stimulus-situation and indeed, both may be 'correct', in so far as they are both accurate reports of the individually experienced situation or fact. Thus, a 'personal equation' can occur in any observation, and Helmholtz went so far as to suggest that most of his observations as they were recorded in his Physiologische Optik could conceivably be the subject of this personal error. In short, he was suggesting that he had written a book about his own interior psychological make-up. But as Professor

Boring suggests, "Helmholtz was being overly cautious for the sake of making his point, since his observations of the Optik have very well stood the test of repetition and verification."[34] As has been said, this problem of the personal equation in observation suggests in a general way the problem of objective truth to which William James would have to give some working solution.

Wilhelm Wundt
(1832 - 1920)

Wundt is the first individual to whom the title "psychologist" can without reservation be given. Though he held a chair of philosophy, as most German psychologists did, and wrote profusely on philosophical subjects, in his own estimation and that of the academic world he was first and foremost a psychologist. Considered as the founder of 'experimental psychology', he was the first to promote the idea of psychology as an independent science apart from physiology. We shall turn to his biographical data momentarily, but it must be noted at the outset the very striking similarities that obtain in the

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[34] Ibid.

careers of both William James and Wilhelm Wundt. Both pursued the study of medicine for practical reasons; both began their university instruction as professors of physiology from which they moved to psychology, but never too removed from philosophy. On one of his frequent visits to Germany in search of the intellectual nourishment for which the country was so prominent in the 19th century, James intended to attend the lectures of both Helmholtz and Wundt at Heidelberg with no success. But that incident will be viewed in the chapter dealing with James' personal life. Its importance here is that it indicates that the young James was already aware of Wundt (only ten years his senior) and his celebrated work the Beitrage, which is said to mark the real beginning of experimental psychology. It is true that William James did not agree with all of the doctrine that Wundt proposes, but it can be inferred that he shared and accepted the latter's conception of psychology and its scope. And their similar ultimate orientation toward philosophy should most certainly be underscored.

Some preliminary notes concerning Wundt's educational formation are necessary. Wilhelm Wundt was born in Baden in

1832 in Neckarau, a suburb of Mannheim. His early education was largely given by a tutor who was also his father's assistant in the ministry of a Lutheran parish. At the age of thirteen he went to the Gymnasium at Heidelberg where he developed the habit of intensive reading and entered upon a life of learning which was to lead to his fame as a distinguished scholar. At the age of nineteen he was ready for the university.

In 1851, he went to the small university at Tubingen. But after only one year he returned to Heidelberg for three and a half years. It was at Tubingen that he made the decision to become a physiologist, which at this period was tantamount to becoming a physician. The decision for Wundt, just as it was for William James, was a practical one. Wundt's father had died earlier and his mother's means were small. He needed a profession that would provide him with a livelihood. But given his scholarly temperament, there was also the desire to pursue the sciences. Medicine seemed the best compromise. One cannot but remark with surprise how James himself was confronted with the same dilemma, and for him too medicine seemed the best way out. Professor Boring makes an interesting ob-

servation to the effect that it was because young men had to be self-supporting and because the medical faculties of German universities gave an admirable academic training which could be made profitable in the practice of medicine later on, that modern psychology began as physiological psychology.[35] Interesting, indeed, when one considers that Fechner, Helmholtz, James and Wundt were all members of the medical profession.

His medical training followed the regular pattern of the day - anatomy, physiology, physics, chemistry and practical medicine. During these medical years it is noteworthy that Wundt had already made a start in research and began publishing. But by the spring of 1856 it was quite clear to him that medicine was not meant for him. Accordingly, for the second semester of that academic year he went to Berlin to study physiology under the man who was then the world's greatest physiologist, Johannes Muller. We have seen him in his role as the 'father of experimental physiology'. After this experience in Berlin, Wundt could never be again satisfied with what he termed the narrowness of the universities of South

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[35] Ibid., p. 317.

Germany. Berlin represented pure science in its depth and many-sidedness. Furthermore, at Berlin he met not only the best science of the day (which served to attract William James thereto as well) but also the greatest minds active at that time. It was inevitable that this sojourn in Berlin was definitive in directing him into academic life.

Returning to Heidelberg in 1856, Wundt took his doctorate in medicine and was installed as 'Dozent' in physiology, an appointment that he retained until 1864.

During this period he began the publication-productivity that would not cease until his death. The work that concerns us most is the Beitrage zur Theorie der Sinneswahrnehmung, the first section of which he published in 1858. Though this period was still one in which his interest in physiology was of paramount importance, nevertheless this work indicated his interest in psychology. He was already conceiving perception as something more than the physiologist's sensation. But the change-over from physiologist to psychologist was a gradual one. In fact, it was during these seventeen years at Heidelberg (1857-1874) that the change was affected.

He began to formalize his epistemological notions in

the academic year 1856-1859, by offering lectures on an introduction to the study of the natural sciences and the following year on anthropology, a course which was described as the natural history of man.

Concerning the change-over to psychology, some observations on the Beitrage would be illuminating. The first section appeared in 1858, was followed by two more in the following year, another in 1861, and the last two sections in 1862. It was not, to be sure, the first book in experimental psychology, nor the greatest to date. Fechner's Elemente had appeared two years before the Beitrage. Nor were the experimental contents as original, psychologically, as Weber's (1795-1878) work on the sense of touch had been. But the experimental contents were important because they showed that, while Wundt was still very much preoccupied with physiology, he was beginning to work in experimental psychology and largely in the field of perception.

But the work did make a claim in behalf of experimental psychology. Wundt argued that all psychology begins with introspection, but that this method was aided by experimentation and the natural history of man. He held that one worked

inductively by the latter means. Utilizing these three methodologies, Wundt endeavored to carry out during his lifetime the three phases of the psychological program that he outlined in the introduction of Beitrage: experimental psychology, social psychology and a scientific metaphysics (the latter consisting of Wundt's discussion of induction).

What is important, however, is that Wundt came to the conclusion that psychology must be scientific and as such must be dependent upon experimentation.

Wundt's lectures on 'physiological psychology', which were begun at Heidelberg in 1867, resulted in what has been called the most important book in the history of modern psychology. This was the Grundzuge der Physiologischen Psychologie. It represented the culmination of his intellectual development at Heidelberg and was the symbol of his metamorphosis from physiologist to psychologist. And most especially, it marked the formal beginning of the new 'independent' science of psychology.

It was a systematic handbook in the sense that it contained a definite system of psychology and proceeded in a systematic manner to develop it. To its principal doctrine

we shall turn momentarily. Suffice it to say here that, though successive editions appeared between 1873-1911 which contained several changes, still the essential outline of the system as given in the original remained. In fact, Wundt did not write another system of psychology.

He went to Zurich in 1874 but remained there only a year. In 1875, he accepted the call of the university at Leipzig to a chair in philosophy. The change to philosophy brought Wundt formally into the field where psychology was supposed to belong and it was brought there from physiology. As Professor Boring notes,

> Thus began that paradoxical situation which still obtains, whereby experimental laboratories grew up as adjuncts to German chairs in philosophy.[36]

Here again the contrast with William James is striking. For it was from the Department of Physiology that James made his way into the Department of Philosophy at Harvard and affected a change in his title to that of Professor of Philosophy. If anything, James certainly wished to follow the then current style in the German universities.

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[36] Ibid., p. 323.

With all this emphasis on experimentation, this type of research was not long in coming. Four years after his arrival in Leipzig, in 1879, Wundt founded what is considered to be the first formal psychological laboratory. It is not relevant to our purposes here to enter upon what has become controversial matter concerning the 'first' of psychological laboratories. James, in 1875, at Harvard College had a room formally set aside for psychological experimentation, and Carl Stumpf is said to have had some such convenience at an earlier date. What is important about the Leipzig establishment is that there, more than in any other place, the great names in experimental psychology were trained, not only German, but also the first generation of experimentalists in America.

The productivity of the new laboratory was so great that a medium of publication was soon required. Thus in 1881, Wundt founded the Philosophische Studien, an organ both of the new laboratory as well as the new experimental psychology.

The 1880's formed what may be termed Wundt's philosophical decade. But it must be remarked that though he was entitled 'Professor of Philosophy', he sincerely believed that

philosophy should become psychological, adopting its methods of introspection and experimentation. There is even a strong hint of this frame of mind in James as well. In this light, and considering the tremendous influence of Wundt upon subsequent scholars, it is perhaps not surprising that Germanic philosophy has in this century become 'phenomenological' in its methodology as well as content. There are other influences that contributed to the present style of German philosophy, but Wundt must be counted amongst them.

The important treatises of this period were in the field of logic, ethics, and what Wundt termed a system of philosophy. In 1880-1883 he published the two large volumes of his Logik, a treatise that, not surprisingly, contained many of his views on psychology and psychological method. In 1886 appeared the Ethik. In 1889 he published the System der Philosophie, which took up the problem of induction and constituted what Wundt meant by 'scientific metaphysics'. Thus his philosophical bent was concentrated on methodology rather than philosophical content in the traditional meaning of that term. Professor Boring comments on this point,

> In all his work his method resembles more the method of the philosopher than that of the scientist. . . . he was appointed as a philosopher because, even when a physiologist, his bent had been philosophical toward the theory of science.[37]

The new century provided Wundt with the time to complete the unfulfilled task which had been outlined in the Beitrage of 1862, namely, the writing of the Volkerpsychologie, the natural history of man, which, according to Wundt, was the sole branch of human knowledge capable of giving the scientific answer to the problems concerning the higher mental processes.

He was systematic and productive until the very end. Even his death seems to have been in accord with his systematic habits. All his revisions had been completed; the great plan outlined in the introduction of the Beitrage was fulfilled; and he finished his life's psychological reminiscences in 1920, just a few months before his death on August 31, at the age of eighty-eight.

In 1889 he had the honor of receiving the rectorship of the University of Leipzig. It was a fitting testimonial to

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[37] Ibid., p. 327.

his scholarly greatness. But after all is said and done, the true measure of his greatness lies in his writings. What is more, the character of the new psychology was determined by him. And in a general way he had also exercised a determining influence on American psychology (through his American students) in his insistence upon experimentation, even though America was to have a distinct kind of psychology of its own.

We shall now briefly comment on the doctrinal highlights of his vast and all-embracing psychological system. Concerning psychology, he held that it was the science of experience, par excellence. He insisted that it was utterly distinct from metaphysics and must develop itself without any recourse to metaphysics. He was in direct opposition on this point to Herbart, who held that metaphysics was one of the foundations on which the science of psychology was constructed. It may be recalled that Fechner, who has already been discussed, with his very strong philosophical bias, did not avoid metaphysics. And Lotze, another German philosopher-scientist, with whose work William James was well acquainted, deliberately cultivated metaphysics. In fact, German psychology up to this

period had always been metaphysical, following the grand tradition of Kant, Fichte, Hegel and Schelling.

Though Herbart stands for the reaction in psychology away from the idealism of the latter philosophers, it was really Wundt who began the anti-metaphysical tradition in psychology, which still persists even today.

As a consequence of this anti-metaphysical attitude, Wundt insisted that psychology is not the science of 'inner' experience, since the distinction between inner and outer experience is a false one. To be sure, feeling is inner experience, in that it is consciously subjective, and perception is outer, in that it does refer to objects, but the fact is that psychology deals with both of them. He also rejected the Kantian notion of an 'inner sense', arguing that the data of experience are just themselves and do not need to be perceived in order to be perceptions. They need but occur. He is rejecting the Kantian forms of inner and outer sensibility and insisting that 'objects' are directly perceptible; no intermediaries being needed.

He did admit a distinction between physics and psychology but the difference resulted from the different points of view from which experience is regarded by these disciplines.

Psychology deals with 'immediate experience'; its data are phenomena, that is, the readily perceivable stuff of experience. Physics, on the other hand, takes experience mediately and its data are conceptualizations. This implies that its data are conceptual; they are inferred and not the result of immediate experience. For example, the permanence of matter is conceptual since no sensible experience in itself is permanent. Nevertheless, the science of physics represents a very real world.

This brings us to the celebrated mind and matter, or mind and body problem. Wundt held that these could not be compared since they are totally different universes. He was a dualist, therefore, and as a dualist he held for psychophysical parallelism. He rejected the theory of interaction because he believed that the closed system of causality of natural science could not affect the mind and neither could the mind act upon it. He admits that there is an appearance of interaction in the case of sensation, for example, where nervous stimulation seems to give rise to sensation, but he says that this is only an appearance, not a reality.

What happens in sensation is that identical conditions

give rise to both physical and psychical processes, which are thus concurrent, but neither identical nor causally related to each other. Finally, psychophysical parallelism is neither universal nor a general metaphysical principle. It obtains only in those instances where it has been demonstrated to apply. On this rather curt dismissal of sensation, Professor Boring comments,

> Wundt, for all that he founded physiological psychology and wrote chapters on the nervous system, really went far toward dismissing the body from psychology.[34]

It was only later that psychologists insisted on bringing the body and its behavior back into psychology.

We must now turn to the problem of the 'elements of consciousness'. Wundt outlined the problem of psychology as a) the analysis of conscious processes into elements, b) the determination of the manner of connection of these elements, and c) the determination of the laws of their connection. Let it be immediately said, that Wundt fixed the notion of 'elementism' upon psychology. But just how literally he intended that it be taken seems an open question, as we shall see.

Just as physics abstracts properties, so according to Wundt does psychology isolate part-contents, while still

retaining their phenomenal actuality. The goal of psychology then is the analysis of the knowing mind into simple qualities and the determination of the laws of their ordered multiplicity. But here the difficulty begins, since multiplicity is an equivocal word. One may ask which is the conscious reality, the element or the manifold consisting of the elements? There is an ambiguity in Wundt's reply in that he seems to say that the manifold is the phenomenal reality, but that the element is also real, and not simply a construct resulting from the methodology of psychology. In the light of his theory of actuality (which we shall see next), it is hard to accept that he meant the element as anything more than an analytical abstraction used solely for the purposes of description. Yet, Professor Boring notes that

> . . . it is quite clear that he thought of the elements as being experienced as such, and in fact his conception of introspection demands such a view.[39]

This observation follows from the fact that for Wundt introspection implies the having of the total experience immediately, so that the 'elements' would have to stand out and

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[39] Ibid., p. 334.

be attended to immediately in the given. But in the defense of Wundt on this point, it is best to agree with the other observation of Professor Boring, "that the conceptual nature of elements was not so clearly seen in the nineteenth century as in the twentieth."[40]

The main objection to psychological elementism is the fact that all phenomenal experience consists of a constant flux. Wundt wished to emphasize this by naming the element a mental process, a name which implies that experience is active in the sense of a constantly changing process. This is, of course, very similar to the view that Professor James takes, namely, that phenomenal experience is 'like the flow of a stream' in which there are no parts or groupings of elements. In point of fact, William James was definitely opposed to elementism.

This view of phenomenal experience leads to his 'theory of actuality' (concerning the mind). Simply stated, the mind as actual, is immediately phenomenal and thus in no sense of the term can be said to be substantial. However, the mind is

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[40] Ibid., p.334.

an active actuality, if the expression be permitted.

The following statements summarize Wundt's theory of mental activity: Mind is actual; it is therefore not substantial. It is activity and not passive being. It is process not object. Hence it proceeds by way of lawful development and not by way of fixations.

This last statement about the lawful development of the mind introduces that aspect of Wundt's thought that deals with mental law. His fundamental principle of law was that of psychic causality under which he meant to include all laws of the interdependence of conscious data. As a principle it is exclusively operative in the purely phenomenal realm and must not be confused with psychophysical causality, which involves the dependence of mind upon body, which, as we have seen, has no role in Wundt's thought.

It had been maintained that cause and effect were physical concepts that had no applicability to the mind. To this argument, Wundt replied that psychic causality was different from physical causality and thus the word cause is applicable to mental events, provided that its meaning in this sphere is very clearly understood. He suggests that some precisions

concerning physical causality have to be made. Physical causality is a conception bound up with the nature of inter-dependent substances. But we have already seen that there is no mental substance and so in the mental order, cause does not apply to separate substantial mental things. Again, in the time of Wundt, physical causality was understood in terms of the quantitative equivalence of cause and effect in terms of energy. And thus as Professor Boring so well expresses it,

> . . . the two are not only correlated events in which the cause is prior to the effect, but they are so related that the cause can be translated into the effect by reducing the relation to the transfer of a determinable amount of energy.[41]

But within the mental universe as conceived by Wundt, there is no mental energy, so that once again this physical concept of causality has no applicability.

What psychic causality involves, therefore, is the principle of growth or development of the mind. Wundt held that the mind is always changing and that the changes were lawful. He was simply asserting that the course and pattern of the constantly flowing, conscious stream follows definite

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[41] Ibid., p. 335.

laws of sequence, so that 'this' regularly follows 'that', despite the fact that 'this' and 'that' are themselves processes and not rigid and fixed substantial things. There are other mental laws, but it would be to go beyond our purposes to discuss these in detail. Suffice it to say that they are but variants of this fundamental law of psychic causality.

Before terminating this chapter, we must briefly discuss a philosopher-psychologist who had a great influence on William James.

Hermann Lotze
(1817 - 1881)

Lotze was primarily a metaphysician in the tradition of Fichte, Hegel and Schelling. He did publish in the field of psychology, but his mature work was in the field of philosophy, and it is for this reason that he is included in this introductory chapter. William James disagreed with his idealistic philosophy but I believe that James admired his method of philosophising, namely, using the inductive and experimental methods of science. Whether or not this can successfully be done is another matter which we cannot discuss here. But it is because of this attempt by Lotze to do so that we include

him as an influence on James' thought.

Lotze's chief gift to posterity was, therefore, his metaphysics. But in the domain of psychology he is remembered for three principal reasons. 1) He published a medical psychology, or better, a 'physiology of the soul' in 1852, which was the first book to claim to be a physiological psychology. 2) His theory of space (anti-Kantian) based on local signs was the foundation for the later empiristic theories, especially those of Helmholtz and Wundt. 3), Finally, Lotze, occupying the chair in philosophy at Gottingen, remained a philosopher with a great interest in the physiological psychology, and like William James in the United States, became the pioneer of the new psychology in Germany and Austria. Even after he had turned his productivity to metaphysics, he continued to lecture in the field of psychology and thus exerted a strong personal influence upon the psychologists of the two above-mentioned countries. Among his famous students were Stumpf and G.E. Muller. Brentano was his protege during the period of his difficulties with the authorities of the Roman Church. Finally, Lotze is said to be a bridge between classical German philosophy and twentieth century idealism.

Lotze was born in Bautzen on May 21, 1817, the son of a physician. He entered the University of Leipzig in 1834. Four years later he had gained doctorates in philosophy and in medicine.

His interests were two-fold: 1) scientific, based upon mathematical and physical studies and 2) aesthetical and artistic.

His vocation seemed to be the reconciliation of science with art, literature (humanities) and religion. Thus the whole thrust of his philosophy has been ascribed as an analysis of the concept of the mechanical workings of nature with the goal of proving that this concept necessarily leads to the assumption of an ideal principle of existence underlying the whole of physical reality. William James severely criticizes this monistic idealism - the absolute unity of all things - in his Hibbert Lectures, which were later published under the title A Pluralistic Universe.[42]

His excellent background in the natural sciences enabled him to put his knowledge of inductive and experimental

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[42] William James, A Pluralistic Universe (New York: Longmans, Green and Co., 1909), pp. 55-60.

methods to use in the modernization of philosophy. At this period, when there was much hostility to metaphysics, he combined the inductive method of the exact sciences with metaphysical insights, especially those in the tradition of 19th century German idealism.

Thus he is the originator of the first phase of the transition from a conception of philosophy which assumed that by deductive reasoning or reflection one can make discoveries about the nature of man and the universe to the view that philosophy is concerned only with the analysis and clarification of concepts. The final phase of this transition is to be found in the work of contemporary analytic philosophers.

For this reason he rejected the methodology of Fichte, Schelling and Hegel, and most especially the deductive reasoning of Hegel as exemplified in his Phenomenology of Mind.

Yet, he did rely upon reflection to defend hypotheses concerning the nature of reality which cannot be presented as self-evident or evidenced by scientific observation. In this sense, his conclusions were in at least partial accord with the idealistic tradition.

He acknowledged the existence of mechanistic functions in nature, but regarded these as the means by which the Deity

actualizes the final good of the entire universe.

His views on mechanism and teleology were rather distinctive. He held that laws which governed particles of matter in the inorganic world obtained as well when they were combined in a living body.

But he rejected the view that is still very prevalent even today, that explanations in terms of efficient causes and explanations in terms of final causes are alternative and incompatible. In a word, he held that mechanism is the instrument of purpose. Thus, men explain why a living thing does what it does in terms of ends or goals and how it does what it does in mechanistic terms.

As has been noted, he held that God in creating and preserving the world and in attaining his ends does so entirely through the laws disclosed by the natural sciences.

In 1856, Lotze published the first volume of his chief work, the Mikrokosmus, the second volume of which appeared in 1858, and the third in 1864. This work contained a very comprehensive account of his philosophical views.

A more systematic account of his philosophy as a whole appeared in three further volumes: the Logik was published in

1874; the Metaphysik, in 1879; the third dealing with practical philosophy (morals), art and religion remained uncompleted at his death which took place on July 1, 1881.

Concerning the soul, whose existence he ardently defended, he taught that it was substantial and possessed freedom of action. The Ego, for him, was not merely a logical subject as Immanuel Kant had taught; it was an active principle within the composite constituting the 'persona'.

With respect to body and soul, he conceived them as being in a constant reciprocal relationship, so that the body affects the soul v.g., in the acts of perception and feeling, while the soul acts upon the body, namely, in acts of free will. In this doctrine he was very much at odds with the then current nineteenth century determinism. But for Lotze there could be no meaningful morality without freedom. We shall see how vehemently William James was opposed to this same deterministic doctrine which was so destructive of free will and belief.

His interest in art and in morals and the biological approach necessary for the study of medicine combined to lead him to place special emphasis upon feeling and emotion. Here

again the parallel to William James is striking, as will be seen in the chapters following.

Lotze's philosophical impact is best expressed in his three notions of being, happening and value. The characteristic of the external world is being (his monism) - this is the concern of inductive metaphysics; that of man's perception is happening, which is channeled from the without to the within - this gives rise to the physiology of the soul (a rather odd term); and that of the inner world is thought, truth and value - the field of axiology.

His contributions to the philosophy of mind and to psychology distinguish him both from the rationalistic philosophers and from the intellectualist, sensationist and associationist psychologists.

As a professor of philosophy at Gottingen, he took his place in a distinguished succession of philosophers who influenced the development of psychology as an independent science distinct from philosophy.

Indeed, his Medizinische Psychologie was the prototype of the many physiological psychologies which were to appear in the nineteenth century.

It must be said again that William James did not accept

all of Lotze's philosophical doctrine, but I venture to say that through his reading of his works and the fact that he cites him from time to time in the Principles of Psychology certainly is indicative of some kind of influence and sympathy. They were alike in their preference for philosophy and in their insistence that a new methodology was needed in the disciplines, or at least a combination of the rationalistic and empiricistic methods. In his work Some Problems of Philosophy, James says that Lotze is a mixed philosopher in this sense of combining the two methods. Continuing, he says of himself,

> The author of this volume is weakly endowed on the rationalist side, and his book will show a strong leaning toward empiricism.[43]

We shall have further comment on his empiricism in another place. Now we must turn to a detailed study of William James' life.

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[43] William James, Some Problems of Philosophy, (New York: Longmans, Green and Co., 1940), p. 37.

CHAPTER II

The Biography of William James

The parental heritage, his formal education, his career as a Harvard professor and his intellectual progress from Science to Psychology and then to Philosophy

A. Parental Influence and Early Education.

William James was born in the City of New York early in the month of January in the year 1842. He was the first-born son of Henry James (1811-1882) and Mary Robertson Walsh (1810-1882). It is necessary to say something of the rather unusual character of William's father, for he exercised a very strong influence on his future philosopher son in the matter of religious belief, an influence which would reach its culmination in William James' masterful analysis of religious experience, The Varieties of Religious Experience. This influence ran deep and its effects were recognized by Professor James himself when he remarked quite casually and parenthetically in 1897, "Religion is the great interest of my life."[44]

Henry James the elder (the latter designation is

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[44]Ralph Barton Perry, The Thought and Character of William James, (Boston; Little, Brown and Co., 1935) Vol.II, p. 58.

used to avoid confusing him with his own son also named Henry) was the son of a very wealthy Albany, New York, businessman who left an estate of some three million dollars to his children and thus provided them with the means of pursuing their varied interests without the necessity of earning their bread. The household in which the elder Henry was raised was one imbued with Calvinistic piety. Calvinism and churchgoing were the order of the day. It was inevitable that a preoccupation with religion would result in some of the children brought up in this atmosphere. Indeed, one of Henry's brothers was an ordained Presbyterian minister. He himself was a student for three years (1835-1838) at the Princeton Theological Seminary.

But the Calvinistic doctrines of the Fall, Redemption, and Justification-Predestination, were not acceptable to his temperament. He left the Seminary and became permanently alienated from the church, being disaffected both by temper and culture to ritual or ceremonial views of religion, and believing that the Church promoted self-righteousness by segregating a class as the alleged recipients of God's special favor. He was also loath to accept

any strict interpretation of dogma.

The religious concern was there, however, and it remained the central pre-occupation of his life, his effort always being to formulate the Christian message in acceptable non-dogmatic form. It was this aim that attracted him to the great German mystic Swedenborg, whose mystical approach was just the vehicle suited to the temperamental needs of Henry James the elder. But even with Swedenborg he did not fully agree as to doctrine. But this would be to go beyond our purpose here which is only to point out that a father's occupation of study, meditation, and writing on matters religious, carried on in the plain sight of his household (we have already mentioned the generous inheritance which made this possible) could not but have had its influence on the family. It is true, of course, that none of the other children except William ever quite understood or seemed concerned about their father's vocation, but there was always that feeling of something perpetually fine going on. In the well-known reply to his embarrassed children's question as to his vocation he said:

> Say I'm a philosopher, say I'm a seeker for truth, say I'm a lover of my kind. Say I'm an author of books if you like, or, best of all, just say I'm a student.[43]

Thus, for the young William his father was the most vivid example of the reality of religion and this explains why religion became so supreme a concern in his own intellectual life. In all his philosophical and scientific speculative writings it can be said that there was always this over-riding concern to find a secure place for his own religious feelings as well as for the concrete beliefs of his more intensely pious fellow creatures whose religious experiences he so well and sympathetically documented in The Varieties of Religious Experience.

It must, however, be noted that the religion which James endeavored to justify was not of the dogmatic or 'Absolute' variety, but was rather a moralistic concept of religion, which meant the possession of an attitude of seriousness toward the world. As a consequence the pursuit of and devotion to truth is viewed as a very serious duty. Professor James suggests this definition of Religion: "In

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[45] Ibid., Vol.I, p. 12.

its most abstract expression may be defined as the affirmation that all is not vanity."[46] And he says further that the justification of this 'belief' is one of the great impulses and motivating factors for the construction of philosophies. In this then, William James was greatly indebted to his father, eccentric though the latter's religious beliefs were often judged to be. Though there is no direct relationship, there is nevertheless, a striking similarity in the 'conversions' which both father and son experienced. Both were similar in the great fear, doubt and anxiety that these phenomenal events produced. For William James the effects of the experience were very drawn-out and were not as immediately resolved as in his father's case. We shall say more of this later.

This brings up another unique feature of the household in which William James was nurtured, namely, the liberal and tolerant atmosphere of it. As William's sister Alice has so poignantly expressed in her diary:

> How grateful we ought to be that our excellent parents had thrashed out all the ignoble

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[46] Ibid., Vol. I, p. 503.

> superstitions, and did not feel it to be their duty to fill our minds with the dry husks.[47]

Neither the father nor the mother imposed any 'faiths' or 'prejudices' upon the minds of their children. All of them were free to receive whatever their own individual experiences were to provide for their mental framework so that they did not have to waste their time and energy later in sweeping out accumulated mental rubbish. It would, however, be entirely mistaken to assume that the domestic influence lacked a positive aspect for the father was unconsciously demanding and influential in the formation of attitudes in the children. Especially in the matter of the education of his children was his influence felt.

In the matter of the formal education of William James, the father was especially influential. He chose the schools and provided extensive travel. The guiding principle of the elder Henry James in the matter of formal education of both William and his younger brother Henry, for they of the five children principally profited from this guidance, was that made

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[47] Ibid., vol. I, p. 171

first actual duty and calling is to be a man, that is, fulfilling all of one's capacities, intellectual, moral, aesthetic, etc. It was this conviction that caused him to check the vocational ardor of his two sons, instead encouraging them to explore and profit from the world at large, the theatre, literature, painting and other cultures. Though each did become in later life professional people, one the psychologist-philosopher, the other a novelist, they obeyed their father's injunction to truly become 'broadened' men.

This broadening was especially achieved through travel, which was a fundamental fact in the history of the James family. It was customarily resorted to as a means of education for the young and as a remedy for the old, whatever the affliction might be, either mental or corporeal. For William James, traveling began early. He was in Europe in 1844 when but a babe of two and one-half years. A child at this age could hardly be expected to appreciate, let alone retain in memory, whatever a new country and clime might offer in cultural advantage. But this voyage marked but the beginning of the many that would take place during the life-

time of William James. The great advantage of these European sojourns in his formative years was that they provided him with those indispensable intellectual tools, a fluent knowledge of German, French and Latin, with which he could later become the ambassador of European thought to the United States and of American thought to Europe. With these languages he was able to acquire a vast knowledge of the literature of Europe and to come to know the national characters of these two peoples which so shaped their philosophical temperament. One need only add that England was like a second home in the matter of communication. Professor Ralph Barton Perry remarks on this point:

> A facility in the reading and speaking of European languages was acquired early enough to fructify the whole cycle of development. Books were read, books of every description, because books can be read wherever one may be, or even while one is one the way.[48]

The early schooling which took place in New York City consisted of private tutors, first 'educative ladies' and then a series of educational agencies at once more masculine and

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[48] Ibid., Vol. I, p. 177.

more organized. But the main difficulty was that the father's conception of child education was that it was entirely too idealistic and thus impossible of realization. As one author has commented on this situation,

> Only he himself could have taught the children as he thought they should be taught, and he either did not have the patience or felt himself incompetent.[49]

In 1855, the continuing dissatisfaction with William's education determined the momentous decision of the father to go abroad in search of the fulfillment of his educational ideals for his children. William was now old enough (twelve years old) to make the critical comparisons in his trans-atlantic experiences which was to be the next phase of his education.

The first school was a sort of 'polyglot pensionnat' in Geneva which proved not to be up to the expectations of William's father. Thus, it was back to London where a private tutor supplied the formal education. The winter of 1856-1857 was spent in Paris, where William profited not only from the Parisian scene, but also the vast treasures of the Louvre

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[49]Gay Wilson Allen, William James - A Biography, (New York: The Viking Press, 1967), p. 28.

and the Luxembourg, opportunities that he made use of extensively. It was probably here that his sensitive artistic side really developed. In fact, painting was becoming one of his main interests. Delacroix was the painter who most excited William James, and it was his daring use of colors that most appealed. He seemed to use them to give the general effect of vitality and truth which conveyed emotion without sentimentality. This is important to note, because William James cared for nothing that did not stir his feelings, and all his life he would be avidly interested in 'feeling', both as a psychologist and as a philosopher.

In the summer of 1857, because of a serious economic depression in the United States at that period which affected his fortunes somewhat, the father moved the family to Boulogne-sur-Mere, where William attended the local College Municipale. Here in his sixteenth year, William James at last and for the first time, experienced the benefits of good teaching and a systematic educational program. The studies were 'scientifically' oriented and William was highly praised by his science teachers as an admirable student. They encouraged the father to provide him with the advantages

of a first-rate scientific education which Paris could offer. The potential young scientist collected at Boulogne an aquarium of marine animals for which he wanted a microscope. He was also performing experiments with chemicals. Both events were clearly indicative of his scientific bent. Thus the year spent in Northeast France proved profitable indeed.

With his financial status clarified and improved, the father moved the entire family to Newport, Rhode Island, where they remained for the next fifteen months, the young brothers William and Henry attending the local high school.

But once again, discouraged by the education of his children in America and filled with dread of those inevitable habits of extravagance and insubordination which he thought to be the characteristic of American youth at this period, the elder Henry decided to take his family back to Europe. It was thus that William spent the academic year of 1859-1860 at the academy (later the University) in Geneva. His courses were once again scientifically oriented - he especially enjoyed the course in anatomy - and he as well once more impressed his professors with his ability. It should be noted that as

a consequence of his course in anatomy, he also attended the demonstrations in the dissecting of cadavers which was required of all medical students. This may have helped him to gravitate later toward the study of medicine.

The summer of 1860 was spent in Bonn, this being William James' first contact with Germany and the beginning of that facility with the language in which he would later excel. At this point the sum of his learning consisted of a good knowledge of French, some German and Latin, mathematics and scattered bits of science. But it was also here in Germany that William James took the decision to become a painter, a decision prompted by the previous summer's residence in Newport, which in fact was a painter's haven and the residence of several prominent American painters of the time, who were friends of the James family. William James had sketched and painted from early boyhood and while in Paris during the year 1857 he had received lessons at the atelier of M. Leon Coigniet. These factors, plus his unqualified attraction to 'sensorial experience' were what drew him to painting. In him were to be found the interest and the

proven aptitude. What remained was to determine if it would become his life's work.

The experiment with painting under the tutelage of William Hunt was a definitive one. It afforded William James the opportunity to see that his interest in painting was less compelling than he thought; and more importantly, he discovered his talent for the art to be less distinguished than his own very high standards required. He had already written a friend that there was nothing more to be deplored than a bad painter which William James was determined that he would not become.

B. University Education in Physiology and Professional Training in Medicine.

With the year 1861, the vocational interests of William James became those of science. He had already made a decision to the effect that his life's work was to be the pursuit of knowledge. There were many unresolved questions, such as whether his field of concentration should be natural science or philosophy; or whether he should do experimentation or observation; whether to do research or teach; or finally, whether he should engage in the practice of medicine. All of

these questions were to plague him for the next twelve years, years of tormenting doubt and indecision, before the final choice was to be made.

The autumn of 1861 found William James setting out on his scientific career as a student of chemistry at the Lawrence Scientific School at Harvard. Considering William's fluency in French and German and his father's well-stuffed purse, it does seem strange that Harvard was chosen for his study of science at a time when the best scientific schools were in Germany, Switzerland and France; schools, which in fact, had trained what few scientists the United States had at this period. The only explanation available would appear to be that the father could not stand to be separated from his eldest son for any prolonged time, so strong was the attachment on his side.

The Lawrence Scientific School was only fourteen years old and was only loosely attached to Harvard College, which at this period was still very strong in classical and humanistic studies and was not too inclined to be tolerant toward the new sciences.

The most prominent member of the teaching staff was

Louis Agassiz, Professor of Zoology and Geology, who was, in fact, the first appointee to the new school. It was Agassiz who most impressed William James for the purity and discipline of his scientific methodology, and most significantly, his belief that abstract knowledge is a second best, immediate acquaintance transcending it by far. Actually at this time there were several scientists at Harvard who were pursuing their respective fields of research with little encouragement from the Harvard Corporation. There was, for instance, Asa Gray, whose classifications of plants and animals were becoming classics in the field. In 1857, Charles Darwin explained his theory of evolution to Gray, (the Origin of Species did not appear until 1859) who then became its outstanding exponent and champion in opposition to Louis Agassiz who rejected the theory, instead holding for a 'special' Divine creation of all forms of life, each species being separate from all others and immutably fixed.

Benjamin Peirce, the father of the American philosopher and fellow student of William James at Lawrence, Charles Peirce, was regarded as one of the great mathematicians of the period. Jeffries Wyman's renowned course in Comparative

Anatomy and Embryology seemed but confirmatory of the Darwinian hypothesis. William James attended some of Wyman's lectures and it could be said that they played no little part in convincing him of the verity of the theory of evolution, a theory whose influence on the Principles of Psychology was profound. When William James began to teach he drew most heavily on what he learned from Wyman. Commenting on this scientific scene at Harvard College in the 1860's, Ralph Perry says:

> It was in science, and especially in the field of biological science, that Harvard was most contemporary and prophetic; and it was this emancipating influence, among all the forces of his time and place, that most deeply affected William James during the years of his university studies.[50]

Fortunately for William James, the Lawrence Scientific School required neither a high school diploma, nor an entrance examination. While James might have been able to pass the latter, he could not provide the former, due to his rather erratic formal academic preparation.

Another peculiarity of the school was that it had

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[50]Ralph Barton Perry, op. cit., Vol. I, p. 205.

no required curriculum. A student was simply required to enroll under a teacher of his choice, to whom he paid the tuition fee. Since William James wished to study chemistry he was given over to the direction of Charles W. Eliot, the future president of Harvard, who would play a significant role in the life of the future professor. Eliot had just been placed in charge of the Chemistry Laboratory. Writing years later of this first contact with William James, Eliot said that he "received a distinct impression that he possessed unusual mental powers, remarkable spirituality and great personal charm."[51]

Although he proved a very interesting and agreeable pupil during his two years with Professor Eliot, he was not wholly devoted to the study of chemistry. Professor Eliot noted that "his excursions into the other sciences and realms of thought were not infrequent; his mind was excursive, and he liked experimenting, particularly novel experimenting." Chemistry would prove its worth by its usefulness in William James' later studies, but it was for him only a mechanical

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[51]Gay Wilson Allen, op. cit., p. 77.

tool to be used in the study of living processes in human beings, and what already interested him was how a man's physiological structure and functions could effect his emotional and intellectual life. This interest would lead eventually to the formulation of the famous 'theory of the emotions' and their impact on the intellectual life of man.

But for the present (1863-1864) the interest lead him to change from the Department of Chemistry to that of Comparative Anatomy and Physiology in the Lawrence Scientific School, and he thus came under the direction of Professor Jeffries Wyman, the one man, as has already been noted, to whom he owed so much in the way of learning and formation.

The necessity of making soon a final choice of his business in life continued all the while to plague young William James. On this issue he himself commented:

> I stand now at the place where the road forks. One branch leads to material comfort, the flesh-pots; but it seems a kind of selling of one's soul. The other to mental dignity and independence; combined, however, with physical penury.[53]

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[53] Allen, op. cit., p. 96.

Thus on one side there was science and upon the other business (he was much attracted by the prospects of the printing business); with medicine, in which he conceived of partaking of the advantages of both business and science, in the middle, but which nevertheless had drawbacks of its own.

A short time later, after his re-registration at the Lawrence Scientific School in the fall of 1863, he made the decision to study medicine in the Harvard Medical School. Of this choice he later wrote:

> I embraced the medical profession a couple of months ago. My first impressions are that there is much humbug therein, and that, with the exception of surgery, in which something positive is sometimes accomplished, a doctor does more by the moral effect of his presence on the patient and family, than by anything else. He also extracts money from them.[54]

The money was an important factor in his choice as we have seen, especially since he envisioned his own marriage and family at some future date.

The cynicism which William James expressed about the

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[54] Ibid., p. 98.

medical profession should not be surprising, for both the profession and the schools preparing candidates for it were little respected in the 1860's, and it can justly be said that they were little deserving of respect. At the time that William James entered the medical school, Harvard required but three years of study for the M.D. degree, (the third year being spent in an internship in a local hospital), plus a perfunctory thesis, and a superficial oral examination. The degree was the only requirement necessary for certification for the practice of medicine.

The Medical School at Harvard was far from being one of the worst; it was, in fact, numbered among the better because it had at least some prominent and distinguished scientists who either gave courses or lectures that medical students could attend.

Far worse yet, however, was the practice of medicine. Pasteur had not yet proved the existence of germs, so that asepsis was unknown within the practice of surgery, and surgeons of the period took great pride in wearing bloody surgical garments (the bloodier the better) as if this were a sign of their great surgical capacity. It is historical fact

that the mortality in American Civil War (1860-1864) hospitals was frightful. Diagnosis itself was just so much guesswork.

William James was simply being astute in holding the contempt that he did for the Harvard Medical school even while he attended it. But it may be wondered why he chose to attend it under these conditions. Here again, his motivation transcended the actual situation. At no time, either as a student or a graduate, did the practice of medicine hold any attraction for him. What did interest him was 'physiology' and its relation to the mind and human conduct. At the Harvard Medical School he had Jeffries Wyman, Hersey Professor of Anatomy in that same school, whom everyone admitted to be a first-rate comparative anatomist. He wanted an opportunity to study the human body in all its parts and relationships. The medical school seemed to be the right place to commence that study.

William James continued his medical studies until the end of March, 1865, when he joined the Thayer Expedition to Brazil. The expedition was really the undertaking of Professor Agassiz, who suspected that the Amazon was inhabited

by many species of fish still unknown to science. Because the trip was to be financed by Nathaniel Thayer, one of the richest men in Boston, the project came to be known by his name. The Thayer expedition not only promised a long period of close association with the much-respected Agassiz, but it also provided a trial of the career of biologist which, at this point in time, was still a very live alternative in the mind of William James. The long voyage from Boston to South America would also give him time to reflect and examine future possibilities and prospects with respect to his future career. His letters home during this period evidence a strong pre-occupation with philosophy.

The expedition started from Boston on March 31st and arrived at the Rio harbor at the end of April. The work of collecting specimens was slow in getting started, but once it began William James threw himself into it with zeal. About the middle of May, 1865, he contracted smallpox (or varioloid) with which he was frightfully ill for almost a month. His eyes were so severely affected that for a while it seemed he might permanently lose his sight. Though this did not happen, the eyes were, nevertheless, damaged with

the consequence that for the rest of his life he would never use them without excessive fatigue. Upon his recovery he wrote his family that it was a mistake to have come, adding that he was evidently cut out for a speculative rather than an active life. This feeling of having made an erroneous choice may have been the result of the depressive moods that all too frequently accompany any recuperative period.

He decided to return home at once, but very soon after retracted this decision when he became convinced that he was learning the zoology and the botany for which he had undertaken the trip. The resolve to stay finally gave way to a desire to return home. He left South America shortly after Christmas and was back in Boston in early March, 1866.

It was at least a month before he settled down because of all the excitement that his return home had occasioned. But by that time it was entirely too late to enroll in the current term of the Harvard Medical School. He, instead, applied for an undergraduate summer internship in the Massachusetts General Hospital, the largest and most important in Boston at this time, and was with no difficulty accepted. The thought was that the hospital service would

provide him with some of the experience that he needed, and would fulfill one of the requirements for his M.D. degree. He also hoped that this respite from studies would also be the occasion for more reading in the field of medicine, something that interested him far more than the art of diagnosis and treatment of patients.

In speaking of this period of his life in his more mature years, William James said:

> I originally studied medicine in order to be a physiologist, but I drifted into psychology and philosophy from a sort of fatality. I never had any philosophic instruction, the first lecture on psychology I ever heard being the first I ever gave.[55]

Thus, the philosophic interest continued without interruption, but it was only intermittently satisfied. His formal studies continued to be in the biological sciences. The philosophical content of his studies came from several sources: a) the theoretical aspects of his scientific studies; b) from sporadic, but thorough reading of the philosophers, commencing with those most proximate to the scientific spirit of mind such as John Stuart Mill and Herbert Spencer; and c) Lastly

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[55] Perry, op. cit., Vol. I, p. 228.

but by no means insignificantly, from contacts with philosophically-minded friends. It was the latter who acted as a counter-balance to the religious influence of his father.

This influential group of friends consisted principally of four men: Charles Peirce and Chauncey Wright who were passing through that philosophical phase which marks a certain period of adolescence. Charles Peirce has already been referred to in these pages as a fellow classmate at the Lawrence Scientific School from which he graduated 'magna cum laude'. In the winter of 1866-1867 he gave a course of lectures at the Lowell Institute on the "Logic of Science and Induction", and in the following year he published a series of highly original articles on logic and the theory of knowledge in the Journal of Speculative Philosophy. His intellectual influence on James was great in that he gave him some basic ideas and terms, including 'Pragmatism' which, however, James would later develop in his own characteristic way.

Chauncey Wright, although twelve years senior to William James, was a constant companion, with whom much philosophical discussion occurred during his frequent visits

to the James household in Cambridge. The striking characteristic of these two men (Peirce and Wright) was not only their scientific approach to philosophy, but most significantly, the carrying over of the scientific method into philosophy. Both were interested in method for its own sake, the result being a rigorousness in their philosophical thinking.

Oliver Wendell Holmes, who was later to become the very prominent justice of the United States Supreme Court, graduated from Harvard in 1861, and its law school in 1866. He was a born positivist, who had little use for loose or emotionally inspired and biased thought.

Thomas Ward was especially chosen for the receipt of William James' philosophical confidences. Ward himself was of a pessimistic and skeptical mental orientation. His philosophical readings were heavily weighted on the side of the empiricists and the positivists. He was also much influenced by the conversations and lectures of Charles Peirce.

The intellectual melieu generated by such companions was no place for an intellectual lightweight. But William James was able to hold his own as the fighting

champion of metaphysical liberalism within the group. He may not have converted them but they were unable to divert him from what seemed his predestined mission, namely, to discover a philosophical road that would justify religion without at the same time alienating science. This was quite a task indeed.

As things turned out, it proved impossible for William James to accept the hospital appointment he had secured. In fact, a lengthy period of time ensued before he was able to complete the required work for the medical degree. He now entered upon a period of partial incapacity, physical suffering, and above all else, depression, which lasted for almost five years. The mood and temper of the winter of 1868 is well conveyed in these words which he wrote his confidant Tom Ward, a year later: "All last winter . . . when I was on the continual verge of suicide, it used to amuse me to hear you chaff my animal contentment."[56]

William James suffered from what the older textbooks in mental diseases called neurasthenia. It was a

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[56] Allen, Op. cit., p. 124.

condition of weakness or exhaustion of the nervous system due to an excessive expenditure of energy. This view of the disorder is quite obviously a physiological one. The more contemporary view of this malady is psychologically oriented in that it conceives this particular condition as a type of neurosis, usually the result of emotional conflicts, and characterized by fatigue, depression, worry and quite often, accompanied by localized pain without apparent objective causes. This second definition of neurasthenia would seem the one most appropriate to describe William James' condition. But no matter how it be defined, this state of his health was not just an incident in his life. For though he was passing through its acute form at this period, it would always be a burden to him throughout the entirety of his life.

For one thing, this condition precluded his entering into experimental research, which necessitated hours of standing in the laboratory, a requirement he simply could not endure. It also limited the amount of his reading, thus turning him from a passive and cumulative erudition toward active rumination. As Professor Perry expresses it, "he

became essentially a thinking and observing, rather than a learning man."[57] And even though recurrent ill health brought inevitably with it the periods of depression that he knew so well, his sanity was never disturbed. What these seizures did produce was a very warm sympathy for abnormal people and inclined him to that view which he expresses in The Varieties of Religious Experience, that those so afflicted were the chosen vehicles of the spirit.

A factor which added to an already bad situation was the growing and more serious neurasthenic symptoms of William's sister Alice. She became so much worse that special medical treatment had to be sought in New York. This caused much concern in the James household in Cambridge and certainly affected William James, who was suffering in his own way the debilitating symptoms described above. It is no wonder that a very sympathetic understanding and fondness grew between these two similarly afflicted individuals.

Having heard that the mineral baths at one of the German spas were good for such afflictions as his, he

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[57] Perry, op.cit., Vol. I, p. 233.

approached his father with the idea of spending a year abroad. His mother opposed the idea but gave in when his father agreed to it.

But William James had a more specific reason for going to Germany besides this therapeutic one. His interest in physiology was already manifest from his studies at the Harvard Medical School. He felt that by going to Germany at this time when physiology was flourishing, he could deepen his own knowledge of the matter and further perfect his knowledge of the language at the same time. We have already seen what was transpiring in Germany at this time in the field of physiology and its foundational role in the service of the 'new' psychology. But new and enticing things were happening in science and in general literature too. Germany in fact was becoming the home of many an intellectual pilgrim, not only from America, but from other centers of Western Europe as well.

James sailed from New York on April 16, 1867, and after a sojourn in Paris of five days filled with sightseeing and attendance at the Theatre, he proceeded to Dresden, where he spent the spring and early summer of 1867.

In August he decided to try the baths at Teplitz in Bohemia on the advice of his Dresden physician. He suffered continually from a painful back whose origin went back to Cambridge earlier in the spring. He found the thermal baths in Bohemia weakening, and not only his back, but a digestive disorder seemed to grow worse. Writing to his father about his true physical condition which up to this time he had been concealing, he admitted again that "thoughts of the pistol, the dagger, and the bowl began to usurp an unduly large part of my attention, and I began to think that some change, even if a hazardous one, was necessary."[58] In fact, much of his other correspondence of this period reflects ill health, brooding melancholy, vocational doubts and a dispersion of interests.

He returned to Dresden, packed his trunk and was off to Berlin where he hoped he could attend lectures at the University. In writing of his Berlin plans to his intimate friend Tom Ward he said:

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[58] Allen, op. cit., p. 134.

> I am going to try this winter to stick to the study of the nervous system and psychology. Unfortunately I shall not be well enough to study the nervous system practically. There is an enormous psychological literature (from a physical and inductive point of view) in German.[59]

The preventive cause of his practical study of the nervous system - necessitating long hours of standing in the experimental laboratory - was his still-present back pains. Thus his illness was the very cause of directing him to the field in which he would make his own great contribution in the future. Unable to do the laboratory work which was required of the advanced student of physiology, and deeply concerned with his own mental and emotional problems, he was forced to turn to the study of psychology through reading and introspection.

But to be barred from the laboratory and all experimental research was not an easy thing for him to accept. Writing to his dear friend Henry P. Bowditch, a contemporary at both the Lawrence Scientific school and Harvard Medical School, he said:

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[59] Perry, op. cit., Vol. I, p. 244.

> The physiological laboratory, with its endless array of machinery, frogs, dogs, etc., etc., almost 'bursts my gizzard', when I go by it, with vexation.[60]

Of seven courses and four lectures in physiology and psychology which were being offered at the University of Berlin in the academic year 1867-1868, William James took five courses and attended three lectures. The course in which he was most interested was that given by Emil Du Bois in physiology. What was of most significance about Du Bois' lectures was the fact that they confirmed the growing conviction of William James that the way to approach psychology was through physiology. This conviction would be fully realized in his own great psychological work, The Principles of Psychology. At the moment, the germinal seed was being nurtured.

The lectures of this very competent and 'brilliant' physiologist affected James in another and most disturbing way. They clearly focused on the haphazardness and inadequacy of his former education. Writing of these limitations he says:

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[60]Ibid., p. 250.

> If I had been drilled further in mathematics, physics, chemistry, logic, and the history of metaphysics, and had established, even if only in my memory, a firm and thoroughly familiar basis of knowledge in all these sciences . . . to which I should involuntarily refer all subsequently acquired facts and thoughts . . . I might be steadily advancing.[61]

But William James was not of that sort of stock which would needlessly lament over events which themselves could no longer be rectified. Rather he turned to the formidable task of supplying his intellectual deficiencies. He turned to reading and blocked out an ambitious program of literature in both physiology and psychology, much more than he could ever finish in view of the fact that he still found the reading of German slower than his rapid speed of reading English titles. But he was not satisfied with just this; he planned to go to Heidelberg, for as he explained in another letter to his dear friend Tom Ward:

> German scientists had made some measurements in the region lying between the physical changes in the nerves and the appearance of consciousness-at (in the shape of sense perceptions), and more may come of it. Helmholtz and a man named Wundt at Heidelberg are working at it.[62]

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[61] Ibid., Vol. I, p. 249. [62] Allen, op. cit., p. 140.

If he lived through the dismal and damp Berlin winter, he planned to go in the summer to Helmholtz and Wundt who were doing these measurement-experiences at the University of Heidelberg.

Writing to his father on December 26, 1867, James informed him of his plans to remain in Berlin till the end of the term in March, then he would try the baths at Teplitz as a kind of preparation for Heidelberg, where he hoped he might just possibly be well enough to attempt some laboratory work on the physiology of the senses with the great masters, Wundt and Helmholtz. Again he decried his incapacity with respect to physiology:

> At present my health is so uncertain that I cannot look forward to teaching physiology. As a central point of study I imagine that the border ground of physiology and psychology overlapping both, would be as fruitful as any, and I am now working on it.[63]

Thus the alliance of physiology and psychology in his own mind would seem to be solidifying.

In the middle of January, 1868, William James packed his trunk and returned to the baths in Teplitz. He defended

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[63] Perry, op. cit., Vol. I, p. 254.

this sudden decision which made the completion of the term at the University of Berlin impossible, with the explanation that if he took the bath therapy now for the still ailing back, he might still return to Berlin for the new term in April before the summer semester at Heidelberg began.

By mid-March he felt the need for a change of scene once again. He decided on Dresden this time since it was but forty rail miles from the baths in Bohemia. He remained in Dresden until the middle of June.

During this seemingly listless and unproductive spring of 1868, the introspective aspect of his psychological development continued. His apathy and restlessness aroused his curiosity about the relationship of mind and body. His apathy obviously was physical; but the restlessness was mental. The more inactive his body, the more active his mind seemed to become. Though on the surface this may have appeared the most arid period in his life, the appearance belied the fact. His letter writing to friends and relatives was prodigious; his notebook was replete with his frequent meditative insights; he continued

to write reviews of German works which he sent to his brother Henry in Boston for publication in American journals; and his reading list was most impressive: Shakespeare, Homer, Renan, Cousin, Taine, Kant, Janet, Lessing, Goethe, Schiller and Darwin. Of all these authors, it was Goethe to whom William James owed a very great debt. His father, Henry James the elder, was not indifferent to the existence of specific social evils, but his Swedenborgian conviction that God's will was the source of one's own character and actions (all evil emanating therefore from man's assertion of his independent will), gave him a tranquility of mind in the presence of these evils which permitted him to go about his own way tending to his own affairs. William James, lacking both the faith and the physical constitution of his father, could not accept, let alone comprehend this antinomian doctrine. In fact, given his emotional and physical temperament, he found it immensely destructive, both mentally and physically, his skepticism giving away to despair which in turn lead to prostrated nerves. The fact of evil in this world was always a first-order concern for William James the philosopher. It was,

in fact, the basis for all his moralism. In philosophical terms, this conflict which was the source of his anguish, existed between an uncompromising spiritualism (his father's) and a naturalism that he found so abundantly permeating the writings of Goethe. James felt impelled to choose either his father's 'theism' or Goethe's 'pantheism'. The latter proved to be more congenial and healthy-minded for him. To be sure, Goethe was no instantaneous cure for this mental anguish, but reading him helped William James accept evil as an unrelenting reality in nature, and not as something ordained by God (as his father believed), and therefore capable of being dealt with by practical energy. Writing in his diary he said,

> Have been in a queer state for the last few days, of weak-headedness from bathing (at Teplitz), and of a sort of inward serenity, and joy in living derived from reading Goethe and Schiller.[64]

In Goethe he found that 'realism' by which he hoped to steer a middle course between pessimism and supernaturalism. The effect of this discovery was to finally divide him from his

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[64] Allen, op.cit., p. 148.

father on intellectual grounds; it was also the first form of his own personal belief which later developed into his empirical philosophy.

There was another brief sojourn in Teplitz and then on the 27th of June the long-planned trip to Heidelberg was made. But within a week he was back in Dresden. He found the town of Heidelberg beautiful but shut in by two hills, which for him was too confining. More importantly, Wundt was not lecturing, and a glimpse of Helmholtz was enough to turn him away. Besides, the summer holiday of two months was to begin in about five weeks and I should find myself absolutely without any source of diversion outside my own periphery, as the University closes and everyone scatters."[65] It was obvious that he found the place emotionally dissatisfying.

He felt that he could not justify remaining for the summer in Dresden. The financial burden on his father for this lengthy European search for a cure was heavy, especially with the other four children whose educational needs also claimed attention. And the younger Henry, the future novelist, was most eager to get abroad to commence his

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[65] Ibid., p. 150.

career.

Somewhere William had learned that the mineral baths in Divonne, in French Savoy, were particularly therapeutic. To the new baths he went ever in search for health, making stopover visits to Geneva (where he had studied) and Lake Leman. The baths proved to be as little efficacious as those of Teplitz and at long last (November, 1868) he decided, in response to entreaties from home, to seek a cure at the family home in Cambridge.

One highly significant event occurred while William James was at Divonne. It was the beginning of his acquaintance withtthe philosophy of Charles Renouvier. Little did he then realize the consequences which this acquaintanceship would have for his own interior life. In a letter to his father he writes:

> I got a little book by a number of authors, "L'Annee 1867 philosophique", which may interest you if you have not got it already. The introduction, a review of the state of philosophy in France for some years back, is by one Charles Renouvier, of whom I never heard before but who, for vigor of style and compression, going to the core of a half a dozen things in a single sentence.. . .[66]

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[66]Perry, op.cit., Vol. I, p. 285.

To Charles Renouvier and his influence on William James we shall momentarily return. But as that takes place in the United States, it is to that distant shore we must return with this narrative.

William James sailed for America on November 7, 1868, and thus terminated a period of eighteen months in Europe. The health he went to seek was not found. But he did benefit enormously from the reading he had done in German science, literature, and philosophy. It was so extensive and would prove so useful to his future intellectual development that the time in Europe was comparable to a liberal education and a better one at that, than he could have obtained even at Harvard College.

Upon his return to Cambridge in November of 1868, William James returned to the study of medicine with sufficient continuity so that he was able to present himself for the degree in the following Spring. But bad health continued to plague him, so much so, that he advised his friend, Henry Bowditch, in January of 1869, that he planned to lose at least a year in vegetating and doing nothing but survive.

The preparation for the medical examination was

practically nil, a fact of which William James was all too aware, for he groaned that "my feeling of unpreparedness has, so far from exciting me to study, given me a disgust for the subject."[67] The required thesis was decent (James wrote on the 'common cold'), but consisted of a mere compilation of what the textbooks had to say on the subject. In any event, the degree was obtained on June 21, 1869, some six years after William James had set out to obtain it. It brought its own degree of relief in two ways; first it was the removal of a burden, and it did help to bolster a waning self-confidence. Secondly, it marked the close of one epoch of his life.

C. The Moral Crisis and Its Resolution Through Charles Renouvier.

An event that was to have great bearing on William James' future career as a university professor was the election at this time of his former professor, Charles W. Eliot, to the presidency of Harvard College.

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[67] Ibid., p. 299.

We now turn to a momentous period in the life of William James. It is a period marked by the lowest point that his depression reached and the beginnings of improvement that would only later become permanent. There is, first of all, the climax of the spiritual crisis and a pathological seizure consisting of an acute attack of melancholia. The two do not appear to be related, but both are reported to have occurred at about the same time, that is, in the late winter and early spring of 1869-1870.

The spiritual crisis was occasioned by the slow withering of James' will to live, in the absence of a philosophy by which to live. It was a paralysis of action brought about by a sense of moral impotence. A year before James wrote to his friend Tom Ward:

> I'm swamped in an empirical philosophy. I feel that we are Nature through and through, that we are wholly conditioned, that not a wiggle of our will happens save as the result of physical laws; and yet notwithstanding, we are 'en rapport' with reason.[68]

Such a deterministic view was bound to lead to the most severe pessimism. And it bludgeoned James' will into a

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[68]Allen, op.cit., p. 164.

state of almost complete intellectual and moral paralysis. This depressive mood was only intensified by the talks with that formidable determinist, Chauncey Wright, a frequent visitor during this first winter back at Cambridge. His recent reading of Elemente der Psychophysik and Uber die Seelenfrage (deals with mind-body relationship) by the German psychologist, Fechner, who therein claimed to have measured sensation and reduced it to a mathematical formula, also increased James' moral sense of helplessness. He recorded in his diary on February 1, 1870, the following:

> Today I about touched bottom, and perceive plainly that I must face the choice with open eyes; shall I frankly throw the moral business overboard, as one unsuited to my innate aptitudes, or shall I follow it, and it alone, making everything else merely stuff for it.[69]

By the term 'moral', William James was suggesting the notion of 'free will' as a kind of antidote to the pessimism resulting from the deterministic conception of the world. To be sure, there is the matter of the existence of evil which appears to be inherent within the very texture of this universe. But if the will be free, a life of moralism is pos-

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[69] Ibid.

sible, that is, there exists either the hope to conquer evil or a resolve to die bravely in the face of it, for even though it might slay the individual, yet it cannot subdue him. Professor Perry has very aptly commented on this point:

> He (William James) was too sensitive to ignore evil, too moral to tolerate it, and too ardent to accept it as inevitable. Optimism was as impossible for him as pessimism. No philosophy could possibly suit him that did not candidly recognize the dubious fortunes of mankind, and encourage him as a moral individual to buckle his armor and go forth to battle.[70]

What William James very much needed at this point was a philosophical justification of that attitude toward will which conceived it as free. That was essential for his personal salvation. In that same notation in his diary which was cited above, James added that it may be that the moral interest can be developed, and that for the moment he was resolved to acknowledge the supremacy of morality.

It was now that William took up again the French philosopher Charles Renouvier, and found in his work Psychologie rationnelle, with its doctrine of freedom, just

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[70] Perry, op.cit., Vol. I, p. 324.

the right spiritual medicament that his tormented soul needed. He found at one and the same time health, fortitude, and insight. On that eventful day, April 30, 1870, he recorded the following in his diary:

> I think yesterday was a crisis in my life. I finished the first part of Renouvier's 2nd Essay and saw no reason why his definition of free will -- 'the sustaining of a thought <u>because I choose to</u> when I might have other thoughts' -- need be the definition of an illusion.[71]

James added that he would hold it as true for the length of the remaining year. "My first act of free will," he wrote, "shall be to believe in free will."[72] He decided to end all speculation on the matter and in the future only read such literature as would be favorable to this new 'belief'. What is this saving gospel of belief, belief that will have action as its object?

It seems appropriate to pause momentarily in order to examine briefly the philosophical teachings of Charles Renouvier on this crucial point, for it cannot be doubted that Renouvier's was the greatest individual influence upon the development of James' thought. The dedication of James'

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[71] Allen, <u>op.cit.</u>, p. 168.

[72] <u>Ibid.</u>

posthumously published, Some Problems of Philosophy, contains this retrospective judgment (prepared by James before his death).

> He (Renouvier) was one of the greatest philosophic characters, and but for the decisive impression made on me in the seventies by his masterly advocacy of pluralism, I might never have got free from the monistic superstition under which I had grown up.[73]

No greater personal tribute of debt could be paid by one individual to another.

Charles Renouvier (1815-1903) is considered to be a Kantian and, in fact, is credited with the revival of Kantianism in France during the 19th century. But in truth, while he may be said to philosophize within the Kantian framework, he differs on essential points of doctrine very frequently with his supposed mentor. Indeed, he has been referred to as a kind of 'heretical' Kantian. Some of the divergences may be observed in the comments that follow.

For William James, Renouvier was first of all an empiricist. Renouvier unhesitatingly identifies the real with the apparent, and knowledge with evident presence. He

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[73] Perry, op.cit., Vol. I, p. 655.

substituted 'representations' for substances and/or other kinds of hidden entities. Renouvier himself avows his empirical 'phenomenism' when, in an appreciative article on John Stewart Mill, written immediately after the latter's death, he says that his own 'criticism' had two sources, namely, Kant and Hume, and that he borrowed from the Hume his 'theorie phenominste'.

Renouvier also maintains that the 'categories' are not as Kant held, 'inward forms' of understanding imposed upon the incoming sensations. They were rather empirically observed forms or relations; by recognizing the evident connections of things, Renouvier escaped the skeptical atomism, the nihilistic juxtapositionalism of Hume and Mill. This empiricism in Renouvier must be stressed if one is to fully appreciate the fundamental role of belief in his system. The empiricist, in abandoning the hope of the attainment of absolute certainty, except that which is provided by the momentary and immediate presence of the fact to cognition, is almost forced to accept the act of faith as the guarantor of certainty. There is no where else to turn for reason cannot assure. Hence, through an act of the will, belief is consummated. It is, to be sure, a hazardous type of self-

commitment, with no apparent justification. It would seem to be but an instance of believing whatever one wishes. But this is not so. There must exist subjective motives to justify such an act of trust, and these motives constitute the moral justification of belief. Thus, where experience and logic are not decisive in determining the reality of the 'object', and where at the same time, there exists a practical need for the belief, then at that locus, belief may and should be dictated by moral and religious considerations. Parenthetically, the germinal seed of the future completed doctrine of the Pragmatic view of truth is contained in this 'fideistic' doctrine with respect to the reality of the object of belief. We shall see this in greater detail in a later chapter. For the moment it is sufficient to conclude this discussion of Renouvier's thought by indicating that both Renouvier and James held that these moral and religious considerations were the impulses for philosophizing and, in fact, held that all of the great philosophical systems are but expressions of the temperaments and inclinations of their authors, no matter how much these systems may claim that they submit to irresistible proof.

It is important to remember that for Renouvier as

well as for William James the will is conceived as possessing a quasi-cognitive function, for while it cannot act upon the body, it applies itself, in the form of attention, to ideas; thus, when any idea is fixed in attention, dwelt upon, and manages to survive all the other ideas by this act of attending-to, that is, willing, that idea directly and immediately expresses itself in appropriate action. This fixation on the idea constitutes belief in the idea's reality, for this, according to Renouvier and William James, is the only thing that the will can induce.

Freedom, within this context, means the ability to sustain or maintain a thought because one chooses to when one might have other thoughts. This is the doctrine of will which James said he owed to Renouvier (and to Lotze).[74]

In the developed thought of William James, the emotional factor involved in belief would necessarily have to be considered, for the emotions play a re-enforcing role for the 'will to believe', that is, a feeling state prompts the choice of attending to this particular idea. This will be discussed later. Our present purposes in entering upon this

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[74] Ibid., p. 658.

brief explanation of this doctrine of free-will is to indicate the great impact and significance it held for William James in the midst of his personal suffering.

It was on this April date in 1870 that, with the reading of Renouvier, a turning point was reached. There was no cure to be sure, and for several years to come the road would continue to be hard, but the road was pointing upward, which in itself was already a great thing. For it is doubtful if James could have continued going down the road of depression and despair any further. By May of that fateful year, it can be said that he had conquered his temptation to commit suicide.

The acute attack of melancholia which he suffered during this same time is very well described in what is reported to be/an/autobiographical passage in the Varieties of Religious Experience. The date of this experience is not capable of exact determination. William James' son Henry is of the opinion that it took place in the spring of 1870. But all that is certain is that it occurred after his return from Europe and before the definitive improvement of his health which became evident in 1872. It was a dreadful experience

of fear (anxiety would be the modern term) and contributed greatly to his understanding of the phenomena of religious mysticism and morbid mentality. Seemingly, it was but another symptom of his very desperate neurasthenic condition that prevailed during these years. It resembled in many ways the 'panic-fear' vision that his father had experienced some many years earlier in London which resulted in his 'conversion'.

Even though William James continued to have intermittent spells of melancholia, he himself was aware that he had begun to rise out of the sloughs of the past three months. He maintained an active interest in physiology and looked hopefully in that direction as the locus of his career.

D. The Professional Career - The Mature Psychologist-philosopher.

The second step of his psychological improvement commences with his appointment to a teaching position on the Harvard faculty. In early May, 1872, President Eliot of Harvard, William's former chemistry professor, informally

offered him a one-year instructorship to teach an elective course in 'Comparative Anatomy and Physiology'. The offer was formalized and William James accepted it. Thus, after many years of gnawing uncertainty and many delays, in his thirtieth year, William James began the professional career to which he would devote thirty-five years of his life. His vocation of teacher and scholar was a settled matter. But what he would teach was still very much subject to change. As had been evidenced in what has preceded, he was interested in Physiology, Psychology and Philosophy. All three disciplines attracted him, and during the career on which he had just embarked he would teach all three of them. Physiology came first, because the opportunity to teach was offered in that field. Two months after having accepted the appointment to teach physiology he wrote to his brother Henry:

> If I were well enough, now would be my chance to strike at Harvard College, for Peterson (assistant professor of philosophy) has just resigned his sub-professorship of philosophy, and I know of no very formidable opponent.[75]

But in all of his teaching and writing the three subject

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[75] Allen, op.cit., p.175.

matters all interpenetrated. We have already seen how the study of physiology was suggesting itself to the mind of James as the way in which psychology should be studied. As he would construct this latter branch of knowledge in his Principles of Psychology, it would look for its causal explanations to physiology andfor its deeper implications to the theory of knowledge and metaphysics, or in a word, to philosophy.

Even the prospect of teaching produced an immediate beneficial effect on William's health. He wrote to his brother Henry,

> The appointment to teach physiology is a perfect godsend to me just now. An external motive to work, which does not yet strain me, a dealing with men instead of my own mind, and a diversion from those introspective studies which had bred a sort of philosophical hypochondria in me of late and which it will certainly do me good to drop for a year.[76]

One final commentary on this 'crisis' period seems appropriate before we move on into the full consideration of the teaching career of William James. Shortly after the signs of his recovery were obvious to all of his family,

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[76]Perry, op.cit., Vol. I, p. 328.

William's father proceeded to inquire of his son what he himself thought prompted his change for the better. William attributed the change to several things, notably, Renouvier and his doctrine of free will (already seen), the reading of the American author Wordsworth, but especially his having relinquished the idea that all mental disorder required a physical basis. In his own period of mental crisis he came to see that the mind did act irrespective of material coercion, and could be dealt with therefore at first-hand. He thus saw that not all mental life could be accounted for, or mental and nervous aberrations treated, physiologically. And he found further from his painful experience that what he believed affected his digestion, sleep and emotions, so that the mind could as well affect organic functions. What all of this meant, of course, was that William James, unlike most other scientists, would never be blind to the fact that not all mental life could be accounted for physiologically, and that the scientific method was more limited than most scientists realized. All of this would affect his mature doctrine, especially that concerning the mind-body relationship.

In this winter of 1872, James also opened his correspondence with Charles Renouvier which was to continue the immense influence of that philosopher on James' own philosophical maturation.

His teaching activity began in early January, 1873, and William James at once proved to be both an effective lecturer, as well as a professor that was well-liked by his students. He wrote to his brother Henry in early April, "I have done enough now to show me that the duty of teaching comes kindly to me, and that I probably should become a good instructor with practice. From what I hear reported the boys have been satisfied so far."[77]

President Eliot not only invited William James back for another year, but offered him the whole department of physiology and anatomy as well. He refused the offer despite the prospect of permanence that it implied, because he still wished to fight it out, as he phrased it, in the line of mental science (philosophy).

Within several days, however, he decided that it

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[77]Allen, op.cit., p. 181.

would be foolish not to accept Eliot's offer. He tried to justify it by writing the following in his diary:

> I came to this decision mainly from a feeling that philosophical activity as a business is not normal for most men, and not for me. To be responsible for a complete conception of things is beyond my strength. To make the form of all possible thought the prevailing matter of one's thought breeds hypochondria.[78]

But he did allow that his deepest interest would always be in the problems of philosophy.

Despite his improvement in mind, James had not yet acquired the bodily strength and endurance to bear up under the strain which continuous teaching involved. In May he was feeling the burden of four months of teaching, and this occasioned new doubt and the thought of another trip to Europe. He was convinced that a more permanent condition of health was almost within his grasp, and that a period of recuperation abroad might just be the needed ingredient to free him from permanent invalidism.

Thus, he made his acceptance of the teaching position for the entirety of the following year (1873-1874) sub-

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[78] Perry, op.cit., Vol. I, p. 343.

ject to withdrawal until as late as the middle of August if he felt so inclined. What was remarkable in this situation was the patience of President Eliot with William's vacillation.

He spent the summer holidays in Maine attempting to recoup his strength, but when the month of August arrived, he informed President Eliot of his definitive resolve to abstain from teaching for one year.

On the recommendation of his brother Henry, who was now a permanent resident on the other side of the Atlantic, William decided on Rome because of its 'sedative climate', its social distractions, and in the inimitable phraseology of Henry the writer, Rome was "peculiarly adapted to help one get through time."[79] Henry offered to join him in Rome, and companionship was something that William needed dearly in this period when his moods were still fluctuating between periods of depression and exhilaration.

He sailed for Europe in October, landed at Queenstown, and proceeded at once to Florence with only the

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[79] Ibid., p. 248.

quickest glimpses of London and Paris. The sojourn in Florence was the result of William's desire to see the art treasures of that city which even today is so abundantly blessed in this respect.

In Rome he became ill with what he thought was the notorious Roman malarial fever and thus hastened back to Florence. From here he went to Venice, Dresden and finally Bremen, where he boarded the ship which brought him back to Cambridge in the middle of March, 1874. The trip abroad did have some curative effects.

He immediately began his preparation for the coming fall term at Harvard. The summer was spent with the making of the customary tours of the resorts along the coasts of Massachusetts, New Hampshire and Maine. Despite some set-backs which were, however, temporary, William's feet seemed directed in a permanent path which was to prove the right one for him.

In the autumn of 1874, William James removed his teaching career as an instructor in full charge of the course entitled "Natural History 3", which in effect was "The Comparative Anatomy and Physiology of the Vertebrates". It

combined the respective fields of biology, physiology, and anthropology. He was also placed in charge of the Museum of Comparative Anatomy upon the death of his former professor, Jeffries Wyman, who died that very September.

In the autumn of 1875 he began giving a graduate course in "The Relations between Physiology and Psychology." It was with this course that he introduced laboratory experiments, and for which reason he is generally recognized as the founder of the first of such psychological laboratories in America. It is true that other institutions claim this priority; for example, Stanley Hall, who received at the hands of William James what was presumably the first doctorate in the new psychology to be granted in the United States, is said to have 'founded' in 1883 what is called the first psychological laboratory in America at the new graduate university of Johns Hopkins. But as Professor Boring comments on this point, "of course experimental work in psychology brings laboratories into existence wherever it occurs, and William James had for several years' space for experimental instruction and thus a laboratory at Harvard."[80] Thus

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[80] E.G. Boring, A History of Experimental Psychology, (New York: Appleton-Century-Crofts, Inc., 1957), p.

it would seem only just to recognise James' laboratory as the first.

As a matter of fact, in 1876 James began giving a similar course in the relations of physiology and psychology at the undergraduate level, and set up an improvised laboratory for the experimentation that was to accompany this course and which later developed into a laboratory for Psychophysics.

With respect to this first course concerning the relations between Physiology and Psychology, it is interesting to note that the academic authorities of Harvard regarded it as pertaining more to philosophy than physiology and insisted that it must be offered under the sponsorship of that department. William James was not yet officially the philosopher that he so wished to be, but he was making his way to that long cherished goal by this transfer to the department of philosophy. The Chairman of the Department of Philosophy, the Hegelian George Herbert Palmer, remarked of this transition:

> He (James) had been engaged with this (Physiology) but a short time when he announced to me that bodily functions were merely subsidiary to mental

> and could be understood only from the point of view of psychology. Accordingly he came over to our Department.[81]

It must be observed that the newly budding experimental psychology had not yet grown sufficiently to exercise its right to independent status from philosophy.

In 1875 he was made an assistant professor of physiology, and though at this time no formal concept of 'tenure' existed, nevertheless, with this appointment in rank he attained what would be its equivalent, namely, professional establishment.

His health, like his occupation, was now more stabilized, but he continued for several years more to suffer excessive fatigue from time to time, and was, on frequent occasions, unable to use his eyes, a particular burden for anyone as eager to read as he was. Yet it could be said that from 1875 to 1899 his health was no longer the central problem of his life, and he was able to carry a load of work that many a man would have indeed found excessive.

The summer of 1876 was a busy one indeed. It was

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[81] Allen, op.cit., p. 196.

spent as usual with friends at New England seaside resorts. The correspondence with Renouvier continued with greater frequency and his admiration for the philosopher continued to grow. He wrote to Renouvier during that summer that," it is a mere affair of time before you will take your place in the general History of Speculation as the classical and finished representative of the tendency which was begun by Hume, and to which writers before you had made only fragmentary contributions."[82] This was further praise for Renouvier's supposed empiricism. But the history of nineteenth century philosophical thought does not seem to have born this out. James also turned to the reading of the works of Renan, for whom he felt a moral repugnance, but could not help but admire this author's exquisite literary genius.

In the philosophical order, he was active as well. He sent a letter to the "Nation", a prominent weekly American magazine consisting of commentary on the political, literary and art scene that then existed in the country, in which he criticized the teaching of philosophy in American

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[82] Ibid., p. 203.

colleges. He strongly advocated complete freedom in the teaching of philosophy since its chief educational value was a "wider openness of mind and a more flexible way of thinking."[83] In fact, he was attacking the way philosophy was still being taught in the higher institutions of learning in the United States in the 1870's. He maintained that the professor owed his position not to any speculative gifts or inclinations, but rather to his 'safeness'. The main objective of the teaching of philosophy was dogmatic edification. Of such 'safe' professors and their lectures he wrote,

> His classes are edified rather than awakened, and leave college with the generous youthful impulse, to reflect on the world and our position in it, rather dampened and discouraged than stimulated by the lifeless discussions and flabby formulas they have to commit to memory.[84]

It is interesting to note that he withheld his name from the letter since he was only too much aware of Harvard sensibilities. There had been annoyance about his 'new' course of 'psychology' that was given within the department of philosophy. Furthermore, the philosophy courses, especially those

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[83] Perry, op.cit., Vol. I, p. 373. [84] Cited in Allen, op.cit., p. 203.

in Morals, had a very definite Christian tone to them. He, thus, found it prudent to temper his criticism with some words of balm. Thus his article concluded with this flattering notice:

> Meanwhile, when we find announced that the students in Harvard College next year (1877-1878) may study any of the following under the guidance of different professors -- Locke's 'Essays', Kant's 'Kritik', Schopenhauer and Hartmann, Hodgson's 'Theory of Practice' and Herbert Spencer's 'Psychology' -- we need not complain of universal academic stagnation even today.[55]

The most notable event of the autumn of 1876 was William James' first undergraduate course in psychology. It was catalogued as Natural History 2 with this brief descriptive title, "Physiological Psychology". The study of the relational aspects of physiology and psychology gave way to the new 'experimental', albeit it physiological, psychology. The specified text for the course was Herbert Spencer's Principles of Psychology.

This same course was transferred to the Department of Philosophy in 1877-1878. Several comments by students on the new course now given by the Philosophy Department indi-

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[55] Ibid., p. 204.

cate the interest the course aroused among the undergraduates. One student wrote that "after many humble requests for information concerning Spencerian Philosophy, a course has at last been established in which Darwinianism is to be treated metaphysically, that is to say . . . precisely as Darwin and his followers say it should not be treated."[86] This comment indicates that James was undoubtedly introducing the evolutionary theory only as a large part of the course, much to the dissatisfaction of some students. But another student commented that the same course, in dealing with Spencer's Principles of Psychology and the latest functions of the brain, supplied a need that many students felt. These comments suggest that the course was controversial, which should not be surprising, especially if the conservatism of the Department of Philosophy was as James reported it to be. He had to tread lightly.

William James did not agree with many of Spencer's doctrines in the Principles, the class text, but the topics covered in it were those in which James himself was interested.

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[86] Perry, op.cit., Vol. I, p. 475.

This was one principle reason why he kept the text year after year even though his disagreement with most of that it said grew greater and greater each year.

The Spencerian work in its opening chapters discussed the physiology of the nervous system and treated the mind as a function of an evolved organism dealing with a physical environment. This certainly mirrored and seemed to confirm James' approach to the study of psychology, namely, from the biological consideration of a fact to the psychological implications, and this is just the way his own future work, The Principles of Psychology, would repeat it. Another aspect of Spencer's work that James found to his liking was how it moved freely from the psychological aspects of a question into its philosophical dimensions. Spencer's philosophical excursions were just the needed occasions on which he could express his own philosophical insights much to the annoyance of some of his more positivistic-minded students as has already been indicated above. But for the remainder of Spencer's thought, William James had little use, let alone respect. He said of him that his great and only virtue was his belief in the universality of evolution, whereas his 1000 crimes were the resultant

5000 pages of absolute incompetence (the Psychology) in trying to work it out in detail.

In June 1878, William James contracted with the publishing firm of Henry Holt Company to write his Principles of Psychology. It would take him twelve years to complete this work which he had originally undertaken to do in two.

Four months prior to this, William James had delivered a series of ten lectures in psychology at the recently founded John Hopkins University in Baltimore, Maryland. The University was modeled after the style of the German Universities, and largely because of James' acquaintance with them and his growing reputation in American academic circles, the President, Dr. D.C. Gilman, hoped to entice James through the lecture series to join the Department of Psychology. And so while at Harvard James was moving closer to the Department of Philosophy, his reputation outside of that environment was growing as a psychologist. It was an inevitable consequence when the distinction between the two disciplines was not as sharp as it later became.

James lectured on "The Brain and the Mind" at Johns Hopkins, showing how the former was the organ of the latter,

making a very good impression on all who heard him. In his last lecture he offered reasons for his not accepting the theory that men are unreservedly automatons. It seemed to him that no theory of the automatic response of nerve cells to physical stimuli could explain a human being's mental life. Thinking - feeling - consciousness was a complex process of 'interaction', not of automation. He left open the matter of accepting the appointment to the University faculty.

Another event occurred during the summer of 1878, and it too was in the nature of a contract. This, however, was a contract of marriage between himself and one Alice H. Gibbens. The marriage marked the third and final step in his progress toward the permanent improvement of his health. Mrs. William James was a very remarkable woman in her own right. She was a woman of beauty, charm, wit, and strong character, and as such, she was just the right spouse for William James. As Professor Perry has said of their relationship,

> Her benign influence upon her husband's happiness and upon the fruitfulness of his career can scarcely be exaggerated. She shared his intellectual and professional interests with sympathetic loyalty. Above all, she introduced into

> his household a . . . suggestion of composure which his mobile and high-strung nature needed.[87]

If the great upsurge of creative activity be any indicator, the professional as well as the personal life of William James profited almost immediately from his marriage. Soon after his marriage, he published several major essays, including a critique of Herbert Spencer's Definition of Mind as Correspondence which James entitled Brute and Human Intellect; Quelques considerations sur la methods subjective; The Sentiment of Rationality (1879); and finally, Are We Automata? On any scale of measurement this would be considered prodigious. The great virtue of these publications was that they showed that certain of his most fundamental ideas in both philosophy and psychology had, at this point, already crystallized. After 1878, the articles, lectures and books flowed in a continuous stream for some thirty years until a few months before his death.

William's marriage had made him dissatisfied with his Harvard salary, as well as with his continued rank of assistant professor. The inducements from Johns Hopkins were persistent. In fact, President Gilman in his eagerness to obtain him,

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[87] Ibid., p. 376.

offered James a position for but three months a year - it would be considered as a visiting lectureship - with the hope that this arrangement, which would require some residence in Baltimore, would eventually induce the young professor to reside there permanently. But President Eliot of Harvard, who was eager to have him stay on there, encouraged him to trust to eventual promotion and an accompanying increase in salary. The desire of both William and his wife to remain near their respective families in Cambridge to which both were very closely attached, was apparently the deciding factor in their remaining at Harvard College.

The summer of 1880 was spent by James in Europe recuperating from the previous year's fatigue. It proved to be an exhilarating summer. He renewed old university contacts in Germany, and some new ones in France. He met with Renouvier and Francois Pillon, the disciple and collaborator of Renouvier. Pillon was responsible for translating several of James' essays into French, which helped to make James known in Europe.

James had recently given a graduate course on Renouvier's 'Essais' at Harvard, which raised certain ques-

tions in his mind which he wished to discuss with the philosopher. There was too, his own brother Henry, living in London, with whom he spent some time.

He returned to Cambridge to resume his teaching with the new title of Assistant Professor of Philosophy. It was not a promotion as such, nor did it affect his courses in any way, but he did very much desire this official change in his academic title. He was still very much within the midst of his psychological period of transition; only the publication of his Principles would really terminate the domination of his philosophical life by psychology. At least this is the opinion of Professor Ralph Barton Perry, his distinguished biographer. But it remains an open point whether he (James) ever clearly or sharply distinguished between them except to hold that philosophy dealt with very general questions, which James saw as a kind of weakness. But a kind of foretelling of the nature of his speculation in the later, but more mature phase of his thought was symbolized by the new title. In 1885 James was appointed a Professor of Philosophy. But in 1889 his title was changed again, this time to Professor of Psychology, just a year before the Principles appeared.

As Professor Boring well remarks, "the changing of James' title from Professor of Philosophy to Professor of Psychology was out of phase with his mental development."[88]

In the summer of 1882, securing a year's leave of absence, James returned to Europe for a tour lasting several months. He was becoming increasingly better known in Europe through his articles in the two philosophical journals, The Mind (England) and Renouvier's Critique philosophique (France). He developed contacts with the Belgian psychophysicist, Delboeuf; with the German physicist and philosopher, Ernst Mach, and laid the foundations for an enduring friendship with the psychologist, Carl Stumpf. The years spent abroad as a young student and young man were now reaping their reward. A European biographer said of him quite appropriately: "He could pass in America for the most cosmopolitan of philosophers and in Europe for the most American."[89]

The next ten years that followed this period in Europe were devoted to the writing of the Principles of Psychology, the edition of his father's Literary Remains, (a filial act of love performed with the hope that some of

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[88] Boring, op.cit., p. 511. [89] Perry, op.cit., Vol. I, p. 383.

his father's teachings would remain in the minds of at least some of posterity), and several philosophical lectures to non-academic audiences (public lecturing was an activity which he was increasingly undertaking and becoming very successful at) later printed in the volume entitled The Will to Believe. It was also the period in which he indulged his fascination with occult phenomena. The stimulation to research in this area was greatly prompted by his contacts with his English friends Frederick Myers, Edmund Gurney, and the Henry Sidgwicks during the English sojourn of 1882-1883. The latter were founders of the English Society for Psychical Research of which James was to become president near the end of the century. A recent book deals with James' interest in psychic phenomena and gives detailed account of his extensive research on the famous American medium, Mrs. Piper.[90]

The field of his teaching was wide in its range, including in its sweep the history of philosophy, cosmology, ethics, as well as psychology, both elementary and advanced.

There were too the usual concerns of the family man,

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[90] Gardner Murphy, M.D., and Robert O. Ballon,(Eds.) William James on Psychical Research, (New York: The Viking Press, 1960).

increasing domestic responsibilities with an ever increasing family, the building of a home during this period, and the purchasing of a summer retreat in the White Mountains of New Hampshire. But always there was that other work, promised to be completed in two years, but still incomplete. It literally became a heavy cross. But at long last, he was able to write to his brother Henry, from the summer home at Chocorua, New Hampshire, under the date of August 22, 1890, saying "With that work, your "Tragic Muse", and last but by no means least, my "Psychology", all appearing in it, the year 1890 will be known as the great epochal year in American literature."[91]

The Principles of Psychology was finally published in the autumn of 1890. It was a work consisting of two very large volumes totalling some 1400 pages. At the age of forty-eight, William James had finally published his first book, and one that certainly seemed to justify the twelve years that were spent in its writing.

It was an instant success. The work had its detractors, but all admitted the magnitude of the tomes. It became the

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[91]Perry, op.cit., p. 415.

leading textbook in American colleges and universities and was almost immediately translated into German, French, Italian and even Russian. Professor Perry commented on its success in this way:

> It was read because it was readable, and it was read by people of all sorts because of the very qualities which condemned it in the eyes of some professional psychologists. Because it did not substitute the artifacts of analysis for the concrete, living mind, the reader constantly recognized himself in its descriptions and illustrations.[92]

Some of the principal doctrines enunciated in the 'Principles' will be discussed later in this study. Here we would only note that William James began the work as a manual of the new scientific psychology; when he had finished it, he complained that it proved nothing except that there was no such thing as a science of psychology and that psychology was still in an ante-scientific condition. This work is held by Perry to mark the end of the psychological period of James' intellectual development. The remainder of his life, some twenty-one years, would see his development as a full-fledged philosopher.

The next ten years (1890-1900) have been sometimes called the 'religious' period of James' intellectual life

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[92] Cited in Allen, op.cit., p. 323.

because during this time he was largely occupied with the investigation of psychical phenomena (he was elected president of the British Society for Psychical Research in 1893), as well as the preparation of the Gifford lectures which were to result in the publication of The Varieties of Religious Experience. But there were other lectures and articles appearing on a variety of different subjects. Thus, in recognition of James' fast-growing reputation the Harvard Corporation requested that he deliver a series of lectures to the teachers of Cambridge, and the preparation and delivery of these consumed much of his time in 1892-1893. The Talks to Teachers were published in 1899. The Principles were rewritten in briefer form for textbook purposes, resulting in the Briefer Course which appeared in 1892. In 1895-1896, he was lecturing to philosophical groups at Yale and Brown Universities on his famous doctrine encompassed in the title, The Will to Believe. These lectures were published in 1897.

In the autumn of 1896, James delivered a series of eight lectures in Boston at the Lowell Institute on abnormal mental states. These lectures were never published, but they covered the following topics: "Dreams and Hypnotism", "Hys-

teria", "Automatisms", "Multiple Personality", "Demoniacal Possession", "Witchcraft", "Degeneration", and "Genius". James' approach to these topics was strictly psychiatric, that is, they consisted of a description of morbid states of mind and the then best known methods of dealing with these mental conditions. For the next few years this field would be the center of his concentration, even more than psychical research, though William James did not regard these fields as entirely distinct and separate.

At this time the University of Edinburgh extended to him an invitation to deliver the famous and distinguished Gifford lectures on Natural Religion - lectures which were supported by a very liberal endowment. The offer was a signal recognition of the growing esteem with which James was becoming endowed. No specific date was set and there was much vacillation and even an outright refusal before James actually delivered the talks in which he dealt with abnormal states in religious experience. In any event, at the end of the academic year of 1897, he began gathering everything he could find bearing on religious biography and philosophy. The preparation of these lectures were to preoccupy his mind until they

were finally given in 1901-1902.

The year 1898 was one of dire consequences for William James. It was the beginning of the inevitable end which every man must face and none can escape. Before starting out on the long trip across the continent to California, where he had been invited to give a series of lectures at the University of California at Berkeley, he decided to put himself in shape for the journey (which was quite an undertaking at this time), by spending a few days at a camp in the Adirondack Mountains of New York. Instead of preparing himself physically for the cross-continent trip, he permanently injured his health. The strain resulting from ten hours and a half of hard mountain walking with a heavy pack, especially coming after a fatiguing academic year, caused an irreparable valvular lesion of his heart. But James was determined not to give up to it, which was another serious mistake.

On the return trip from California, he exerted himself again by making a trip into the High Sierras mountain range. For a man with a heart making strange palpitations, this was hardly the thing to do. Nor was this the end of the matter. In June of 1899, after he was through with his

classes for that academic year, James returned to the Adirondack Lodge. He insisted to his protesting wife that the recreation would be good for his ailing heart. On one afternoon walk, he took a wrong trail in that sprawling wilderness, got lost, and wandered until near midnight in the woods. He had neither coat, food, or matches with which to kindle a fire. Twice he fainted, but at long last found the proper trail and reached his own lodge. The further damage to an already weakened heart was severe. It was, in fact, the beginning of the end.

In July 1899, James went to Europe according to a plan long before devised, whereby he would prepare for the Gifford lectures on religious experience. But instead of preparing and delivering the Gifford Lectures at the University of Edinburgh as was scheduled, the year had to be devoted to the quest for health for a badly weakened heart. He had entered upon a new period of invalidism. Yet, despite this new burden of an ailing heart, he managed to utilize those periods when he felt some strength, and put together that "monument of erudition and insight"[93], as Ralph Perry has described it, The Varieties of Religious Experience

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[93]Perry, op.cit., p. 430.

(Gifford Lectures). Surprisingly, this period was also the time of his major philosophical achievement: Pragmatism (1907), A Pluralistic Universe (1909), and The Meaning of Truth (1909). These represent the best of his metaphysical fruition. There was also all the lecturing, traveling, engagement in controversy, and correspondence that this philosophical writing occasioned.

The teaching at Harvard was now becoming burdensome to William James, so that after much hesitation and indecision, he finally resigned his professorship at the end of the 1906-1907 academic year. During the next three years, until his death on August 26, 1910, he studied and wrote.

When death came to William James he was acknowledged as one of the 'greats' of the century. The Boston newspaper, "Evening Transcript", in reporting his death gave this evaluation by a prominent scholar: "I am almost tempted to describe his death as the removal of the greatest of contemporary Americans. Certainly no other of his generation exercised such an international influence as did William James."[94]

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[94] Allen, op.cit., p. 493.

On the same day, Figaro began a two-column obituary with "Le grand philosophe William James est mort . . ." and ended with, "C'est un des plus grand espirits philosophiques de ce temps, qui vient de mourir."[95] High tribute indeed from the French.

In an appendix - designated (A), we have included some additional comment on the general influence of Science on William James. It should be read in conjunction with this chapter dealing with the biography as it throws into greater perspective some points of James' life that are discussed herein. To have incorporated this matter within the chapter would have made it too unwieldy. Nevertheless, the reader is encouraged to read it before he passes on.

We are now prepared to take up the discussion of James' philosophical doctrine, particularly his teaching concerning the emotions and their relationships to ethical judgments, which is the central theme of this dissertation.

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[95] Ibid., p. 494.

CHAPTER III

PHYSIOLOGICAL AND PSYCHOLOGICAL PROPAEDEUTICS

The Scope of Psychology, the Function of the Brain, the Mind-Body Relationship and the Production of Movement

It is necessary to begin our doctrinal analysis of William James' psychology-philosophy by introducing and commenting on some key elements in his thought which can rightly be classified as propaedeutics to the study which this dissertation undertakes. They are four in number of which the first is

A. William James' Conception of the Scope of Psychology.

In setting out to determine the scope and method of psychology in the opening chapter of the Principles of Psychology, James makes it quite clear that there are two approaches to the study of man which he wishes to assiduously avoid. The first is what he terms the orthodox 'spiritualistic' theory of scholasticism and of common sense. The second is that of the associationist schools of Herbart in Germany and of David Hume, the Mills, and Bain in Britain. The two

schools of thought agree that psychology is the science of mental life, both of its phenomena and their conditions. But the problems arise and the divergences appear when it is realized that the phenomena, consisting of such things as feelings, desires, cognitions, reasonings, decisions and the like, constitute a complexity which, when superficially considered, leave an impression of chaos.

The scholastics have, according to James, first, classified the data and secondly, affiliated the diverse mental modes with a simple entity, the personal soul, of which the mental states were but so many facultative manifestations.

The associationists, on the other hand, constructed a psychology without the soul. Instead they have taken discrete ideas, whether they be faint or vivid, and showed that by the cohesions, repulsions, and forms of succession of these ideas such acts as reminiscences, perceptions, emotions, volitions, passions, theories and all the other mental phenomena of a person's mind come about. Indeed, the Self or the Ego of the individual is, in this view, no longer seen as the pre-existing source of mental manifestations, but simply the last and the most complicated fruit.

Of these two approaches to mental phenomena James comments,

> If we strive rigorously to simplify the phenomena in either of these ways, we soon become aware of inadequacies in our method.[96]

These inadequacies he describes in great detail, but it is not essential for our purposes to enter into a discussion of these. The two approaches to the study of man are mentioned above to indicate that Professor James was very much aware of their existence and also to show how his own view of the study of mind differs from them.

Any analysis of mental activity, no matter what it might be, indicates that these phenomena work under certain definite conditions and it is the quest for these conditions which is the psychologist's imperative task. With but little reflection on experiential facts, it should be clear that the experiences of the body play a significant role in the exercise of these so-called mental faculties and that one part of the body, namely, the brain, is the one part whose experiences are vitally involved. Thus, if the nervous connection between the brain and the other parts of the body is cut off, the

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[96] William James, Principles of Psychology, (New York: Dover Publications, Inc., 1950), Vol. I, p.2.

experiences of these disconnected parts have no effect upon the mind. The eye does not see, the ear is deaf and the hand is motionless and insensible.

By the same token, if the brain is injured, consciousness is lost or altered, despite the fact that the receptor organs can function normally. Furthermore, unconsciousness can be produced by a blow to the head, a loss of blood in the brain, the pressures due to cerebral hemorrhage; alteration of mental states occurs with the absorption of a very few ounces of alcohol or grains of opium or hasheesh, the whiff of chloroform or nitrous oxide gas and, in our own day, LSD. The delirious states resultant from bodily fever and the alterations of personality which occur in states of psychosis are due either to foreign elements circulating through the brain, or to pathological changes in the organ's substance.

All these factors so clearly establish the fact that the brain is the immediate bodily condition of mental operations, that it can simply be postulated as an evident fact. James says that the whole of his book, The Principles of

Psychology, "will be more or less of a proof that this postulate was correct."[97]

Consequently, bodily experiences and especially brain experiences are conditions of the mental life which psychology must not neglect. James maintains, therefore, that even the spiritualists and the associationists must to a certain extent be 'cerebralists'. This means that a certain amount of brain physiology must either be presupposed or included in the study of the mind.

Furthermore, the psychologist must also be a 'nerve-physiologist', since mental phenomena are not only conditioned by 'bodily processes', but they (mental phenomena) also lead to bodily processes. The text makes this important meaning very clear. James says,

> That they lead to acts is of course the most familiar of truths, but I do not merely mean acts in the sense of voluntary and deliberate muscular performances. Mental states occasion also changes in the calibre of blood vessels, or alteration in the heart-beats, or processes more subtle still, in glands and viscera.[98]

The latter subtle changes we shall study in detail in a future

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[97] Ibid., p. 4. [98] Ibid., p. 5.

chapter since they constitute the emotion. But what we wish to stress here is the general law that James lays down, namely, "that no mental modification ever occurs which is not accompanied or followed by a bodily change."[99] Thus every idea that results from an incoming sensation is accompanied with a feeling or exciting state, just as an idea revived in the mind produces a bodily change. In a word, the feeling state is ubiquitous.

Moreover, ideas and feelings, from whatever source, be they the reading of these very lines which excite in the reader's mind not only movements of his eyes and potential movements of articulation, can at some future date make him speak, or take one side of an argument, give advice, or help him to choose a book altogether differently from what might have been the case, simply because of this original impression on the retina. This indicates how overwhelming and comprehensive are the effects of sensation. More of this shall be said when we discuss the production of movement. It is sufficient for the moment to say that psychology must not only take notice of the antecedant conditions of mental states,

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[99] Ibid.

but the consequences that result as well.

James says that there are two final criteria which will guide his study of the mind. The first is that the pursuance of future ends and the choice of means for their attainment will be the mark indicating the presence of mental activity (consciousness) in a phenomenon. Secondly, because the mind inhabits concrete environments which act on it, and on which it in turn reacts, he shall make whatever sallies into zoology or into pure nerve-physiology which may seem instructive for our purposes. It may be observed that for James, the distinguishing characteristic of psychology is its concern with 'mental phenomena'. This would delineate it from pure physiology, which James considered as mechanical. He says on this point,

> The growth and movements of plants, the processes of development, digestion, secretion, etc. in animals, supply innumerable instances of performances useful to the individual which may be . . . produced by automatic mechanism.[100]

But even granting this distinction, James insisted that the two sciences overlap and that his usage of them in this manner is not the result of confusion.

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[100] Ibid., p. 9.

B. The Functions of the Brain.

It would be tedious and somewhat repetitous to cover again material relating to brain physiology and anatomy which has already been thoroughly discussed in the opening chapter of this dissertation. As was said there and can be reiterated here, William James accepted most of the physiological data that had accumulated during the very intellectually active first half of the nineteenth century. To be sure, new advances in theory were being made, especially in the 1860-1880 period, with the concomitant rejection of previous theory which would not accord with the new hypotheses. In fact, Professor James spends the first hundred or so pages of the first volume of the Principles of Psychology indicating what he accepted and what he did not in the field of brain physiology. Here we shall confine ourselves to a simple outline of those topics which are relevant to our purposes.

1) Man possesses a nervous system whose function it is to bring each part of the body into harmonious cooperation with every other. The afferent nerves, upon being excited by some physical irritant - a chopping axe or a wave of light -

carry the excitement to the nervous centers. There the resulting commotion is discharged (supposing that it is strong enough) through the efferent nerves into muscles and glands, bringing about the movement of the limbs, and viscera, or acts of secretion, which vary from animal to animal and the type of stimulus involved.

2) There are three responses to a sensational stimulus and they differ in many respects. They are: a) reflex (involuntary) movement; b) semi-reflex; c) voluntary movement. An example will serve to clearly illustrate the differences between these. If one hears a conductor calling 'All aboard' as he enters a train depot, his heart first stops, then palpitates, and the legs respond to the air-waves falling on the tympanum (middle ear) by quickening their movements. Should the individual stumble as he runs toward the train, the sensation of falling provokes a movement of the hands toward the direction of the fall, the effect being the provision of a shield for the body from too quick a shock. If a cinder from the train's smoke enters the eye, its lids would close forcibly and an abundance of flowing tears would tend to wash it out. Now the forcible

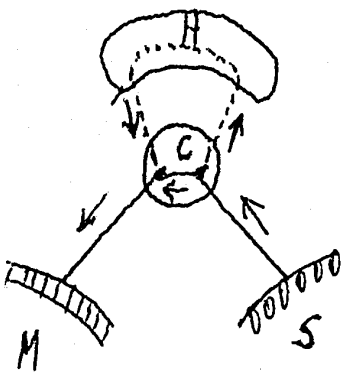
closing of the eye and the lachrymation, as well as the disturbance to the heart, are involuntary or 'reflex' acts. The motion of the arms forward to break the shock of falling is a semi-reflex act. It is reflex because it occurs too instantaneously to be the result of deliberate intention. But it is less automatic than the above-mentioned acts, since a man can learn by conscious effort (as in military training) to perform it with skill; or it may altogether be suppressed. Lastly, the act of running toward the train has nothing instinctive about it. It is the result of education and follows from the consciousness of an end to be attained and a distinct 'fiat' of the will. It is what is termed a voluntary act.

3) The General Notion of the Hemispheres and the Hemispheric Loop-line. After summarizing in great detail several experiments performed with frogs and other animals, James concluded that the lower centers of the nervous system, v.g., the spinal cord, medulla, thalami, act only from present sensational stimuli. The hemispheres act from perceptions and considerations since the sensations which they receive serve only to suggest the former. Still and all, perceptions are

nothing but sensations which have been grouped together; and considerations are images constructed out of past experience which ultimately are but the reproductions of events formerly felt (sensation) or experienced. This means then that the hemispheres are the seat of memory. In them are stored up the remnants of all past experience, and must,

> . . . when aroused by present stimuli, first appear as representations of distant goods and evils; and then must discharge into the appropriate motor channels for warding off the evil and the securing the benefits of the good.[101]

James likens these nervous currents to electric currents (an analogous concept that we have already seen) in order to make this hemispheric activity very clear. We shall use the diagram which appears in the text since it so well conveys his meaning on this point.



Using the electric current analogy, the nervous system, C, below the hemispheres can be compared to a direct circuit from sense-organ to muscle along the line S...C...M.

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[101] Ibid., p. 20.

The hemisphere, H, adds the long circuit or loop-line through which the current may pass when for some reason or other the direct line is not used. An example will illustrate this circuitry. Suppose that a fatigued hitch-hiker on a very warm day lays down on the damp earth under the cool cover of a maple tree. All the sensations of delicious relaxation and coolness that would be flowing through the direct line would naturally discharge themselves into the muscles of complete extension and the traveler would completely abandon himself to a sweet but dangerous repose. However, with the loop-line open, some part of the current is drafted along it, with this result that it awakens rheumatic or catarral (inflammation of the mucous membrane - the common cold) memories, which now prevail over the inclination of the sensations, and make the wayfarer get up and seek another place to more safely enjoy his rest.

If the hemispheric loop-line is just such a reservoir of past experiences now filed away in it, James says that there are some corollaries that necessarily follow. It is interesting to note how strongly the evolutionary hypothesis of Darwin enters into these corollaries.

Firstly, any animal that does not possess such a reservoir is incapable of deliberation or the postponement of an act to weigh and compare one motive or another that prompts the action. James maintains that for such a creature prudence is an impossible virtue. But in the animal in which prudence does exist, nature removes functions that can be directed by it from the lower centers of the nervous system and gives them over to the hemispheres. James says on this point,

> Wherever a creature has to deal with complex features of the environment, prudence is a virtue. The higher animals have so to deal; and the more complex the features, the higher we call the animals.[102]

In apes and man hardly any acts at all devolve upon the lower centers of the central nervous system. Here is one of those places in James' thought where we can very clearly see the functional role of thought in this service of adjusting the animal to his environment, a functionalism which we have already pointed out as characterizing American psychology largely due to the influential work of William James.

In discussing how the sexual function is elevated in

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[102] Ibid.

higher animals to a degree that is denominated chastity, Professor James gives an indication of how the moral sense originates. He says that if chastity be given a physiological interpretation, it means only the fact that present solicitations of sense are overwhelmed by the suggestions of aesthetic and moral fitness which the circumstances awaken in the cerebrum. This is but another instance of the hemispheric loop-line being brought into play. But, more importantly for our purposes, it is a kind of prefiguration of the doctrine concerning the origin of our moral knowledge which we shall later treat in detail.

The action of the loop-line along which memories and ideas of the distant past lie, in so far as it is a physical process, is similar to the type of action that obtains in the lower centers; it is, in short, a reflex type of act. In section D of this present chapter, we shall discuss in full this reflex type of action so that here we only note the following: in both the higher and lower centers the current runs out into the muscles only after it has first run in; in the lower centers the paths by which it is discharged are almost completely determined (James says, "the reflections are few

and fixed among the cell-arrangements".); in the higher centers, namely, the hemispheres, the reflections are many and instable. This instability will be important for our later discussion on the origin of the so-called abstract knowledges. Professor James concludes that

> . . . the conception of all action as conforming to this type is the fundamental conception of modern nerve-physiology.[103]

So much for the nerve centers. We must now turn to the very important matter of

4). The Education of the Hemispheres. The nerve currents that run in from the sensory organs, not only give rise to reflex acts in the lower centers, but at the same time arouse ideas in the hemispheres. These ideas will either permit the reflex actions to discharge, or check them, or finally, they may substitute other acts for them.

Interestingly enough, Professor James maintains that ideas in the final analysis are but reminiscences, so that the only question that needs to be answered with respect to the education of the hemispheres is how processes become organized

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[103] Ibid., p. 23.

in the hemispheres which correspond to the reminiscences in the mind.

Parenthetically it may be noted that in this whole discussion the temper is so physical or better, physiological, that Professor James thinks it necessary to add a footnote to the text in which he stresses that he does not wish his readers to think that he is suggesting that mind and body are homogeneous quantities. He admits that they may be so conceived and that one need make no mention of 'ideas' when discussing this whole process. But he adds, "reflexes in centers may take place even where accompanying feelings or ideas guide them."[104]

Four assumptions must be granted in order to explain this relationship between the hemispheres and the mind. They are the following:

a). The same cerebral process that is aroused from without by a sense organ and results in the perception of an object, will give an idea of the same object when aroused by other cerebral processes from within. The nerve current pass-

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[104] Ibid., p. 25.

ing through the hemisphere will arouse the idea of the object that lies dormant therein.

b). There is the law of association which states that if processes 1,2,3,4 have once been aroused together or in immediate succession, any subsequent arousal of any one of them - the current may be from within or without - will tend to arouse the others in the original order.

c). Every sensorial excitement that is propagated to a lower center tends to spread upwards and arouse an idea. This would appear to be a continuous process since as we shall see momentarily, the body is like a sounding board in that it is constantly reacting to stimuli. Thus we are never without feelings or ideas.

d). Every idea tends ultimately either to produce a movement or to check one which otherwise would be produced. These four basic assumptions succinctly describe the interaction that takes place between the body - the cerebral hemispheres - and the mind, the latter being the place where ideas exist. There is no better or clearer description of the inter-relationship in physiological terms that could be found. The reader will be aided in under-

standing this relationship if he keeps in mind the diagram that was used some pages back to explain the hemispheric loop-line.

5). The Localization of Functions in the Hemispheres. It does not seem essential to dwell lengthily on this point. This subject continued to be a matter of controversy even during James' academic career. James makes several observations on the topic which we simply record here. First, he admits that the main outlines of the solution stand firm, but much remains to be uncovered by further research. Secondly, it is obvious that all functions tend to become more specifically localized as the evolutionary process goes on. Thirdly, although there does exist a correspondence of certain regions of the brain to certain regions of bodily movement, still James says,

> The several parts within each bodily region are represented throughout the whole of the corresponding brain-region like pepper and salt sprinkled from the same caster.[105]

Professor James thus takes the position that generally came to be accepted by physiologists in the latter part of the

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[105] Ibid., p. 63.

nineteenth century. The whole cortex, insofar as currents run through it, is both the source of motor and sensory reactions. Before turning to the next topic, attention should be called to one more very important aspect of Professor James' teachings about the brain. It is the fact that he views each individual brain as unique. It might seem an insignificant point, but far from being such, it is the foundation for his famous doctrine of pluralism and enters into the picture of the origin of moral norms as we shall see. Furthermore, it is a consequence of his acceptance of Darwin's theory of accidental neural variations that occur in individuals.

6). Man's Consciousness Limited to the Hemispheres. It will be recalled from Chapter I, that this subject was always a matter of heated controversy among the physiologists. Professor James chooses to limit, for practical purposes, the meaning of the word consciousness to the awareness of the personal self, in which case it can be said with a great deal of assurance that the cortex is the sole organ of consciousness in man. If there is any consciousness which accompanies the activities of the lower centers, it is a con-

sciousness of which the self knows nothing.

7). The Cortex and the Production of New Neural Paths. For James the brain is essentially a place of currents, which run in organized paths. The phenomenon of the loss of motor or sensory function due to ablation, injury or disease of brain-parts can mean one of two things, either that a current is unable to run in, or if it does run in, it can no longer run out by its old path. Yet restitution of function does very frequently occur. But one of the purposes of the cortex, a purpose for which, according to James, it actually exists, is the production of new paths. By its very constitution, the brain possesses a kind of plasticity so that new neural paths are ever a possibility. This too is an important factor for the 'accidental variations' of neural paths of which we shall have more to say later. Thus, the normal paths are only paths of least resistance. If these are blocked or cut, paths which previously were more resistant now become less so (due to the plasticity of the brain-substance) under these changed circumstances.

8). Emotions and Instincts Within the Hemispheres. Neither in man or beast are the hemispheres virginal organs,

that is, 'tabulae rasae'. On the contrary, they possess innate tendencies which "we know as emotions and instincts . . . (which are) reactions upon special sorts of objects of perception."[106] These reactive states we shall study in detail in the next two chapters. Here we only note that they depend upon the hemispheres and are reflex acts, that is, they take place automatically with no forethought of deliberation and are consequently irresistible. The multiplicity of emotional and instinctive reactions of which man is capable result in extensive recouplings of the original sensory and motor partners. This variety of recoupling explains why the reactions in man and higher animals are so unpredictable. Of the quasi-cognitive function of the instincts and emotions we shall have more to say in the next chapter. Let it suffice here to say that, as feeling states, they prompt the individual to react upon the environment. This means that ultimately all nervous centers have essentially one function, namely, intelligent action. As such, "they 'feel', they 'prefer' one thing to another, and they have

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[106] Ibid., p. 76.

'ends'."[107]

9). Evolution and Chance-accidental Variations. Like every other bodily organ, the nervous centers 'evolve' from ancestor to descendant and this evolutionary process takes two directions: the lower centers become more and more automatisms, while the hemispheric centers tend upward/toward ever larger intellectuality. In a word, there is an every increasing ability on the part of the mind to deal with the environment in a deliberative way. Once again we are in the presence of the functional role of mind and its knowledge. Functions that lend themselves to rigid uniformity are less and less accompanied by mind, so that their organ, the spinal cord, becomes, in James' words, "a more and more soulless machine."[108] Contrariwise, those deliberative functions that result from the animal's adaptation to delicate variations within the environment, become more and more part of the activity of the hemispheres, in consequence of which the latter's anatomical structure and consciousness grows more and more intricate and zoological evolution continues its inevitable

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[107] Ibid., p. 79. [108] Ibid.

course.

There was dispute concerning the modality of this evolution, that is, whether it took place through the inheritance of habits which were acquired during the lifetime of the individual and then simply passed on to the descendant, or whether it was a matter of the preservation of lucky (chance) variations. It is obvious that Professor James preferred the latter explanation.

In the chapter of the Principles where he discusses the habit, James stresses that the conception of the nervous system as a mass of matter with parts in different states of tension is essential to understanding these chance or accidental variations. These parts are constantly tending to equalize their states, the inherent tension, of course, being the cause of dis-equilibrium. The tension must be understood in terms of currents passing through various brain-centers. These currents are also very great in number. He says on this important point,

> The equalization between any two points occurs through whatever path may at the moment be most pervious. But, as a given point of the system may belong, actually or potentially, to many different paths . . . blocks may from time to time occur, and

make currents shoot through unwonted lines.[109] These blocks which occur in neural paths may be due to the play of nutritional changes which Professor James denotes as 'accidental' variations. In any event, they are basically chemical and involve a wave of rearrangement in the matter of the path. The unwonted path would be a newly-created path, which if traversed repeatedly, would itself become the beginning of a new reflex arc. But Professor James points out that this is causality which, at best, is "vague to the last degree, and amounts to little more than saying that a new path may be formed by the sort of chances that in nervous material are likely to occur."[110]

One thing is certain, namely, that chemical action must accompany brain-activity with the result that the psychical principles of 'association' and the physiological principles of nutrition, simply express the former in terms of mind, the latter in terms of brain.

It is a universally acknowledged fact that any sequence of mental action which is repeatedly sufficiently

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[109] Ibid., p. 109. [110] Ibid.

enough tends to perpetuate itself. The consequence is that men automatically think, feel, or do what they have become accustomed to think, feel, or do. But when these 'chance' variations come, all is overturned in the sense that men will act otherwise than was expected. There is without doubt then a great deal of interactionism in this regard between mind and body. We shall see all the implications of this interactionism with respect to our abstract knowledges in a future chapter. But since it is so large a topic in our treatise, to it we must now turn.

C. The Mind-Body Problem and Interactionism

In paying what seems very high tribute to Descartes, Professor James says of him,

> To (him) belongs the credit of having first been bold enough to conceive of a completely self-sufficing nervous mechanism which should be able to perform complicated and apparently intelligent acts.[111]

This praise seems almost tantamount to conferring on Descartes (1596-1654), the title of being the first physiological-

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[111] Ibid., p. 130.

psychologist long before the appearance of that distinct body of knowledge in the nineteenth century. But James is quick to point out that Descartes stopped short when he came to man, maintaining instead that the higher acts of man were due to the activity of his rational soul.

But with the elaboration of the 'reflex action' doctrine in the nineteenth century, the notion that the nervous system *per se* might be responsible for the activity of intelligence once again came to the forefront. As newly proposed, it came to be known as the 'conscious automaton-theory' and its leading proponents, according to William James, were Hodgson, Spalding, Huxley and Clifford. Huxley, for example, said, "all states of consciousness in us, as in lower animals, are immediately caused by molecular changes of the brain-substance."[112] Professor Clifford contended that "all the evidence that we have goes to show that the physical world gets along entirely by itself, according to practically universal rules. There is a parallelism between them (mind-body), but there is not interference of one with

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[112] Cited by James, *Ibid.*, p. 131.

the other."[113] This latter is the doctrine of psycho-physical parallelism which will admit of no efficacious causality between these separate realities. Between them exists an absolute chasm which can never be bridged. Some parallelists may be inclined to admit a correspondence between the two, but certainly no causal relationship.

What would appear to be particularly annoying to James is that the proponents of the automaton-theory deny causal efficacity to the feelings. This is not surprising, for feelings are the point of contact with the outer reality; indeed, they would seem to be the one and only contact the mind has with reality, as we shall see when we discuss the emotions. The following quote appears in another context, but it is cited here because it serves to illuminate Professor James' concept of cognitional activity in man. He says,

> The conception of consciousness as a purely cognitive form of being, which is the pet way of regarding it in many idealistic-modern as well as ancient schools, is thoroughly anti-psychological, as the remainder of this book (the Principles) will show.[114]

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[113] Cited by James, Ibid.

[114] Ibid., p. 141.

For James the role of consciousness is utterly practical; it is a fighter for ends, namely, those that will aid the organism to survive in an environment that is basically hostile. He does not, as we shall amply see, hold to a representational form of knowledge. Here we should recall the doctrine on nerve currents and what they convey concerning the stimulus that was discussed in the first chapter of this work. Feelings are the point of contact for the knowing mind with the outer phenomena acting upon the end-organs and resulting in sensation. There is, in a word, no copy theory of knowledge involved here. This is why James is so adamant about feeling-causality. He says, and we quote the text again, because the matter is crucial to our thesis,

> Common-sense, though the intimate nature of causality and of the connection of things in the universe lies beyond her pitifully bounded horizon, has the root and the gist of truth when she obstinately holds to it that feelings and ideas are causes.[115]

Despite this inadequacy of knowledge concerning causal efficacy, James holds that its attribution to ideas

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[115] Ibid., p. 137.

and feelings seems more consonant with the facts. Thus, for example, felt pain is, as such, not only the cause of outward tears and cries, but also the cause of such inward events as sorrow, compunction, desire, or inventive thought. Just so the consciousness of the good news is the direct producer of the feeling of joy, as the awareness of premises causes the belief in the conclusions.

James berates the 'automatists' for denying causality to the psychic portion of the organism, claiming that causality is here unintelligible, while "dogmatizing at the same time about material causation as if Hume, Kant, and Lotze had never been born. One cannot thus blow hot and cold."[116]

James prefers to hold, as we have already indicated, the common-sense view that feelings and ideas are forces which are in some form or other causes. As causes, their effects upon the brain must be furtherances and checkings of internal cerebral motions. Thus, consciousness is at all times primarily a selecting agency - choosing out of the various materials presented to it. The item chosen is always connected with some interest felt by consciousness to

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[116] Ibid.

be of signal importance at the time. Concerning these internal cerebrations, which, as we shall presently see, also give rise to our aesthetic, intellectual and moral ideas, we are, according to James, without knowledge of them directly. He continues that

> . . . for years to come we shall have to infer what happens in the brain either from our feelings or from the motor effects which we observe.[117]

This is the principal reason why the emotions play so central a role in James' cognitive theory.

Thus the brain will have to be conceived after the manner of huge vat in which feelings and movements somehow go on blending together, and from which an immense number of things result of which we only grasp but the number of times that a fact occurs. He means that we do not know the processes but only the results. In a tone of assurance undoubtedly intended for his scientific-minded readers, Professor James says that the feelings are unable to produce anything absolutely new.

> . . . they can only reinforce and inhibit reflex currents, and the original organization by physiological forces of these in paths must

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[117] Ibid., p. 138.

> always be the ground-work of the psychological scheme. Thus the primacy is always given to the physiological.[118]

Parenthetically, it can be pointed out that though James rejected the automatist theory, he did not question the so-called 'reflex-arc', which was, in his day, so closely associated with automatism.

We shall next turn to a detailed treatment of the reflex act but one final comment is necessary concerning James' rejection of the automaton-theory and his espousal of interactionism between the mind and the body. Professor Perry notes in his magnificent study of William James and his thought,[119] that James had moral and religious grounds for defending and supporting interactionism. The determinism inherent in the acceptance of a pure and unmediated reflex act terminated any possibility for the exercise of 'free will' and faith. Professor James, as we have already seen in the previous chapter, needed both of these desperately. The result was the rejection of automatism, even though it may have been a hesitating one.

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[118] Ibid. [119] Perry, op.cit., Vol. I, p.32.

D). The Reflex-Arc; The Production of Movement.

As a consequence of inward physiological processes which occur in the brain and their concomitant mental products such as perception and reasoning, there always takes place some form of bodily activity due to the escape of this cerebral excitement through efferent nerves. Thus our body is a neural organism, which from the physiological standpoint, is but a 'machine' converting stimuli into appropriate reactions. We have seen that the intellectual aspect of the being is bound up with the 'central' portion (the brain) of this machine's operations. We can, therefore, now consider these emergent bodily activities and their associated forms of consciousness.

Whether we are aware of them or not, every received impression on the incoming nerves produces a discharge into the outgoing ones. Expressing this fact in the form of a general law therefore, it can be said that,

> Every possible feeling produces a movement, and the movement is a movement of the entire organism, and of each and all its parts.[120]

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[120] James, op.cit., p. 372, Vol. II.

Thus, any stimulus which strikes the incoming nerves reverberates throughout the entire neural organism. If we do not feel the 'insignificant sensations' it is due partly to its slight amount of intensity and partly to our own obtuseness. Professor James notes that it was Professor Bain who gave the name of the 'Law of Diffusion' to this phenomenon. That law simply states that "according as an impression is accompanied with feeling, the aroused currents diffuse themselves over the brain, leading to general agitation of the moving organs, as well as affecting the viscera."[121] This doctrine needs to be stressed and understood well because it is the foundation for the James doctrine of the emotions and their extensive influence on our conscious life.

Bain observed that when no emotion is present, the organism is quiescent. Whereas, every pleasure, every pain, and every mode of emotion has definite wave or current effects which do become known to us by means of reverberations which they cause.

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[121] Cited in James, Ibid.

The first organs affected by the wave of nerve currents are the moving members, the most prominent of which, in the case of man, are the features of the face. It is through the face that man first expresses his emotional state. But the influence does not stop here. Rather, it spreads to every part of the moving system, both voluntary and involuntary. An important series of effects are produced on the glands and viscera, that is, the stomach, lungs, heart, kidneys, skin, together with the sexual and mammary organs.

James says that there are:

> . . . probably no exceptions to the diffusion of every impression through the nerve-centers.[122]

But what can often happen is that the effect of the wave process may be an interference with processes already taking place, Tensions already being felt could then be diminished. The outward consequences of this inhibiting effect would be a cessation of bodily activities already in process which would be accomplished by the arrest of outward going nerve discharges. Comparatively speaking and using physiological terminology, it would be like the draining and siphoning of

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[122] Ibid., p. 373.

certain channels by currents which are flowing through others. Thus,

> When, in walking, we suddenly stand still because a sound, sight, smell, or thought catches our attention, something like this occurs.[123]

Still, other cases of arrest of external movement result from stimulation of centers which discharge outgoing currents of an inhibitory sort. For example, when one is startled, the heart momentarily stops or slows its beating and then renews the beat with accelerated speed. The momentary arrest is due to the outgoing current down the pneumogastric nerve which inhibits heart action.

But as a rule the stimulating effects of our sensory impressions are more numerous than the inhibiting effects so that the original law may be said to obtain, namely, that the wave discharge does produce an all body-wide activity.

A brief but concise examination of the six areas of the body which are affected should establish the validity of the law of diffusion. James does point out that at this date, 1885, all the effects of the incoming sensation have not been

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[123] Ibid.

worked out by the physiologists.

First, let us look at the effects upon circulation. We have already mentioned the effect which the pneumogastric nerve has upon the heart-beat. Here are the other ways in which our circulatory system is effected: a) blood from an open vein flows faster at the beat of a drum; b) the circulation in the brain is instantly altered by changes of sensation and the course of thought; c) objects of fear, shame, and anger effect the blood supply of the skin, especially in the area of the face; d) experiments with dogs have shown that the sensations of the higher senses bring about varied effects in their pulse-rate and blood-pressure. For example, the screams of another dog brought about astounding changes in the pulse-rate of another dog; e) the plethysmograph, an instrument for recording the fluctuations in volume of the members of the body, showed the extreme unrest of blood-vessels in the hand, in the presence of the smallest emotional experience, whether the person was awake or sleeping; f) an experiment with a red light showed an observer's pulse rate changed by its perception.

Secondly, there are the effects of an incoming

sensation upon respiration. We 'catch our breath' in the presence of any and every sudden sound. When attention and expectation are at their peak, 'we hold our breath'; there is a kind of emotional arrest, broken with a relieved sigh when the tension of the situation is relieved. In the presence of a fearful object we 'pant' because we are unable to breathe deeply. In this region too, light has been shown to effect hysteric persons.

Thirdly, the effects of sensorial stimuli on the sweat glands: Professor James cites the experimental work of Tarchanoff, who discovered that "nearly every kind of nervous activity, from the simplest sensations and impressions, to voluntary motions and the highest forms of mental exertion, is accompanied by an increased activity in the glands of the skin."[124]

Fourthly, the effects on the pupil of received sensations, both during sleep and while awake; every sensorial stimulus applied during sleep produced a transitory dilatation. Under the influence of fear the pupils of children

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[124]Cited in James, Reid., p. 373.

dilate greatly. The pupil dilates as well under the influence of pain and fatigue; in rage, however, it contracts.

Fifthly, in the region of the abdominal viscera the effects of sensations are well-known, but James laments that too few accurate observations have been made. However, it is obvious that the bladder, the bowels, the uterus and even the sphincter ani, respond to sensations, even indifferent ones. Another common phenomenon is that in some pregnant women the foetus is felt to move after almost every sensorial excitement received by the mother. The explanation here would seem to be the fact that the foetal stimulation resulted from reflex movements (contractions) of the womb. James points out that emotion affects the glands as when grief produces tears, fear the dry mouth, the moist skin and the inevitable diarrhoea; rage has been known to bring about disturbances of the bile. James admits that it is difficult, if not impossible to determine the entirety of these reflex changes. Yet, it can hardly be doubted that they exist in some degree, even where they cease to be traceable, and that all our sensations have some visceral effects.

This last statement clearly indicates why all sensa-

tions ultimately are feelings, that is, emotions. The sneezing produced by sunshine, the roughening of the skin (gooseflesh) which certain strokings, contacts, and sounds, musical or non-musical, provoke, are facts of the same order as the shuddering and standing up of the hair in fear, only of less degree. The reaction within the organism is reflex, that is, consciousness need not be present at all. Consciousness is present when we feel the effects of the sensation-emotion, that is, all the movements, that the sensation produces throughout the body. But the smaller degree of reflex changes are not felt and are, therefore, unconscious.

Sixthly, the effects on voluntary muscles: At the outset, it must be borne in mind that while every sensorial stimulus sends a <u>special</u> discharge into certain particular muscles which are determined by the special nature of the stimulus, it also innervates the muscles generally. This results in what is called the 'dynamogenic' effect. By way of example, it was found that the strength of contraction of a subject's hand was increased if simultaneously with the contraction, a sensorial impression was received.

Again, the dynamogenic value of simple musical notes was proportionally increased by their height and loudness. In the case of compounded sad strains, the muscle strength diminished; compounded gay strains, however, gave rise to an increase of muscle strength. Sight, taste and smell sensations also manifest this reinforcing effect, that is, one stimulation reinforces another already under way.

But these dynamogenic effects must not be confused with reflex acts as such. In the reflex acts new activities are originated from the stimulus.

It should now be well-verified that the 'law of diffusion' is a matter of incontestable fact operating within the organism. The nervous system then can be compared to a good conductor charged with electricity of which the tension cannot be changed anywhere without changing it everywhere.[125]

Let us now turn to the category of movement resulting from 'bodily changes' that is called emotion. Through it we shall find our way to the realm of ethics.

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[125] Ibid., p. 381.

CHAPTER IV

THE PHYSIOLOGICAL THEORY OF THE EMOTIONS AS A GROUND FOR THEIR COGNITIONAL FUNCTION

A. Feeling States and Their Cognitional Function.

One predominant characteristic of the Idealistic School of Philosophers from the time of Plato onwards has been a marked suspiciousness of feelings or emotions. They have generally regarded them as hinderances to obtaining pure truth. Thus, the serious seeker after truth must at all costs guard against the influence of his emotions or subjective states of mind. Professor James strongly reacted against this ancient tradition by arguing instead that, far from being a hindrance, emotions were essential to cognition and hence truth. Indeed, they are the foundation of Pragmatism's conception of truth.

According to James, the first element that an act of cognition implies is the existence of a subjective feeling within consciousness. If there be anyone who objects to this word feeling, Professor James says that such an individual is free to substitute the term 'idea' in its stead. Other non-objectionable substitutes could be 'state of consciousness'

or more simply 'thought'. The only important point is that feelings are cognitional states. The difference between thought and feeling is the use which the mind makes of them. Through feelings we become acquainted with things, whereas by our thoughts we know about them. The fact is that in knowing about them, 'in mente', does not signify that we can point to them, that is, as existents. In this way it can be said that feelings are the germ and starting point of knowledge (cognition), and thoughts are the developed tree.

One essential matter must be clarified right at the start, namely, that for James the term 'idea' or 'thought' must not be understood in any representational sense so that the idea is a copy of some external object which is known through this mental representation. For Professor James, 'idea' implies very simply a feeling emanating from bodily reverberations which are centered in the visceral region of the body. By means of this feeling one becomes aware of an external stimulus acting upon the end-organs. But more of this later when the function of cognition shall be discussed in greater detail. Let us now turn to the nature of the emotions.

B. Emotions in General

The seed of Professor James' famous and controversial theory that the emotions were fusions of organic sensations aroused by bodily expression was planted very early in his mind. Professor Perry, his distinguished biographer, notes that the flyleaf of James' copy of Lotze's Medicinische Psychologie, which he was reading during the year 1867-1868, contains this brief notation, "Emotions due to bodily reverberation, para. 438."[126] Lotze, however, did not take the radical view of James with respect to the emotions, holding instead that feelings were distinct mental elements over and above sensation. Yet he did not minimize the importance of organic sensation.

There were two more significant general influences that led James in the direction of his theory. One was the very strong influence of Charles Darwin, which inclined James to join the emotions with the instincts of man and to stress the biological aspect of emotional expression. He knew very well Darwin's The Expression of the Emotions in Man and

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[126] Cited in Perry, op.cit., Vol. II, p. 89.

Animals. The other influence was that of British empiricism, which lead him to stress the receptive and cognitional aspect of mental content. In a letter to his dear friend, Renouvier, he wrote that his emotion-theory had reference only to "the nerve process which emotion accompanies."[127] I believe that this statement suggests a third, and by far, a more compelling influence for this particular theory of the emotions and the very central role that they play in Professor James' psychological-philosophical thought.k This influence was the physiological orientation of his entire thought, specifically the then evolving doctrine of nerve-physiology which began, as we have seen, with the systematic work of Johannes Muller. The nerve currents passing through the central nervous system, a system which includes the nerve tissue of the brain, simply caused exciting changes along the paths of their discharge. These, in effect, were the emotions or at least their physiological foundation. Furthermore, James saw that while they could serve a cognitive function they could as well bridge the disjunction between the body and mind. Thus the organic reverberations which are the feelings-emotions become the connective factors mediating between the brain and the immaterial

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[127] Cited in Perry, op.cit., Vol.II, p. 89.

mind. As he so well says, "through feelings we become acquainted with things."[128] They are the 'dumb', non-representational link to the real outer-world.[129] Dumb because the nerve communicates its own qualitative change and not that of some quality of the stimulus-object as such. This physiological doctrine we have already seen in our first chapter and it is one that James as a physiologist maintained. Thus it was the function of the incoming or afferent currents to supply the material for cognition as well as to report the outer occasion, just as it was the function of the outgoing currents to preserve, select and act upon the data received. As Professor Perry notes, "this was British empiricism of the orthodox variety."[130] At the end of this chapter we shall discuss a very important

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[128] James, op.cit., Vol. I, p. 222.

[129] In the chapter dealing with the perception of things, Professor James expresses the general (physiological) law of perception, namely, that "whilst part of what we perceive comes through our senses from the object before us, another part (and it may be the larger part) always comes out of our own head." From other like texts it seems safe to assume that the originating stimulus is but the occasion for our awareness of the sensation taking place within us.

[130] Perry, op. cit., Vol. II, p. 90.

corollary of this doctrine on the emotions-feelings with respect to our knowledge of the real to see further how really 'dumb' they are. For the present we only take note of this further fact that James rejected the existence of conational states as distinct from and coordinate with sensory states. In a word, every incoming sensation was accompanied by, or better, was a feeling-emotion. Thus there existed no necessity for positing a distinct state of appetitive activity.

A word concerning the distinction between instincts and emotions must at this point be made. James defines an instinct as the faculty of acting in such a way as to produce certain ends, without foresight of the ends, and without previous education in the performance. Given this definition it can at once be seen how important these reactions are in the light of the reflex arc theory of response. These are the responses that resulted from the animal's attempt to adjust itself to its environment and thereby survive. With the development of consciousness there is always a corresponding decrease in the need of many instinctive reactions and the resulting increase of the activity of choice (prudence)

on the part of the animal. This particular analysis of the instincts in the Psychology is an interesting one, but since it is not of immediate purpose to our work, we shall satisfy ourselves with some few remarks on the relationship between the instincts and the emotions.

Firstly, emotional excitements go with all instinctive reactions. Thus objects of rage, love, fear, etc., not only induce a man to perform outward acts (instinct proper), but they cause characteristic changes in his attitude and facial expression, and affect his breathing, circulation, and other organic functions in very specific ways. Where outward going activities are inhibited, these emotional expressions still remain. Hence, we can see the anger in the face, even though no blow is struck, and fear manifests itself in the inaudible voice and increased facial color, even though all other manifestations of it are suppressed. It can, therefore, be generally stated that "instinctive reactions and emotional expressions thus shade imperceptibly into each other. Every object that excites an instinct excites an emotion as well."[131]

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[131] James, op. cit., Vol. II, p. 442.

But emotions fall short of instincts in this respect, that the emotional reaction usually terminates in the subject's own body, whereas the instinctive reaction leads to some kind of activity performed upon the object. By way of contrast then, we can say emotional reactions are produced by objects with which we have no practical relations. For example, a ludicrous or beautiful object is not necessarily one with which we do anything; in the presence of the former, we simply smile, in the latter case we stand in admiration. It thus follows that the class of emotional responses is much wider than those of instinctive impulses as such. Furthermore, the stimuli are more numerous and the expressions of the emotional state are more internal and delicate. Yet the physiological plan and essence of these two classes of impulse are the same.

One final point is that the mere memory or imagination of the object is sufficient to rekindle the original excitement. As Professor James says,

> One may get angrier in thinking over one's insult than at the moment of receiving it; and we melt more over a mother who is dead than we ever did when she was living.[132]

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[132] Ibid., p. 443.

But it must never be forgotten that both the instinct and the emotion have cognitive functions primarily. Through them we are made aware of the stimulus. It is for this reason that the mere thought of the object (in memory or imagination) is sufficient to produce the bodily changes and the consequent feeling of these.

A complete listing of the emotional reactions possible in man would unnecessarily detain us in arriving at the central problem which we desire to discuss, namely, the subtler emotions and their consequences for abstract knowledge. Thus we shall concentrate on but three emotions, namely, grief, fear, and hatred, to show the 'organic modifications' wrought by these, since as we shall soon see, it is these changes which constitute the emotion 'per se'.

GRIEF

Its primary effect is a paralysis of the voluntary movements. A feeling of weariness results and bodily movements are made slowly, heavily, without seeming strength, unwillingly, and with much exertion. These bodily movements are limited to as few as possible. Thus the grieving person walks

slowly, unsteadily, dragging his feet and with his arms hanging down. Such afflicted people usually need assistance to walk at all. What has occurred in them is a diminishing of the tonicity of 'latent innervation' of the muscles.

But there is another side to the physiology of grief, namely, the effects on the 'involuntary' or 'organic muscles', especially those which are found in the walls of the blood-vessels, which, by contraction, diminish the latter's calibre. These muscles and their nerve endings, which together form the 'vascular-motor' apparatus, act contrarily to the voluntary motor apparatus. Unlike the latter they are not paralyzed, but rather are all the more tightly contracted than is usual, so much so that an anemia in the tissue and organs of the body is produced. In this bloodless state, pallor and shrunkenness, pale color and collapsed features become the characteristic physiognomy of the grief-stricken. Another result of the drainage of blood is an exquisite sensitiveness to cold and great difficulty in keeping warm. Thus, in grief, the inner organs as well as the skin are affected. There is also the diminution of verious glandular secretions, so that the mouth grows dry, the tongue is tacky, and a bitter taste

ensues as a consequence of the tongue's dryness. In the nursing woman the milk is either diminished or stops flowing completely. But strangely enough, one gland does operate and very profusely at that, namely, the tear ducts, a fact which seems to contradict the other physiological phenomena. Professor James does not subscribe to this seeming contradiction for he insists that there are changeable expressions of grief. He says:

> The weeping is as apt as not to be immediate, especially in women and children. Some men can never weep. The tearful and the dry phases alternate in all who can weep, sobbing storms being followed by periods of calm.[133]

Thus he maintains that we have 'two distinct' emotions here, simply because we have two distinct physiological manifestations. And as it will shortly be seen, the physiological change is the emotion manifested by external, observable expression. Both emotions would be prompted by the same object, but they would affect different persons, or the same person at different times, and they would <u>feel</u> quite differently while they were affecting the person. During a crying fit, there is

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[133] <u>Ibid.</u>, Vol. II, p. 444.

an exciting feeling with a certain 'pungent feeling' sui generis. No such redeeming quality can be found in the feeling of dry and debilitating sorrow. Hence, different feelings, different emotions.

It may happen as well that the smaller vessels of the lungs will contract so that these organs become anaemic too, with the result that the grieving person experiences insufficient breath and a general oppression of the chest, and relief is sought by long-drawn sighs.

FEAR

The man experiencing fear at first stands like a statue, motionless and breathless, or he may crouch down, as if by instinct, to go unnoticed. The heart beat is quickened, often violently, so that it palpitates against the rib-carriage. The skin becomes instantly pale, due to the vaso-motor center being affected in such a manner that the contraction of the small arteries of the skin occurs. If the emotion of fear be a strong one, the skin will exude perspiration. This is all the more remarkable since the surface at such times is cold, and heat is the usual excitor of the sudorific glands. The

hair on the skin may stand erect and the superficial muscles shiver. The salivary glands act irregularly so that the mouth becomes dry and is often opened and shut. All the muscles of the body may tremble and this is first observed in the lips. As a consequence of this trembling and the dryness of the mouth, the voice becomes husky or indistinct, or it may fail altogether.

Where the fear intensifies to a state of terror more violent results develop: the heart beats wildly or fails to act and the person faints. Breathing is extremely labored; there is a death-like pallor; the wings of the nostrils are wildly dilated; there is a convulsive motion of the lips; the uncovered and protruding eyeballs become fixed on the object of terror; the pupils are enormously dilated. All the muscles of the body may become rigid or may be thrown into convulsive movements. The arms may be extended so as to avert some dreadful danger, or they may be used to protect the head. Some individuals experience an uncontrollable tendency to flight. This latter manifestation is best observed among soldiers who panic on the battle lines and flee in a helter-skelter fashion. Disorder and disarray are the marks of the military day.

HATRED

The first manifestations are elementary movements of turning away, v.g., the withdrawal of the head backwards, withdrawal of the trunk as well. There is the projection of the hands in order to defend oneself against the hated object. The eyes are usually closed, the upper lip elevated and the nostrils tightened.

Then come the threatening movements such as intense frowning, eyes wide opened, the display of teeth; some individuals may even grind their teeth. The jaw is contracted; the fists clenched; a threatening activity with the arms; stamping of the feet; deep inspirations -- like panting; the growl and other various outcries; a sudden weakness and trembling of voice; spitting. There are finally, certain vascular-motor symptoms as a general trembling; the convulsions of the lips and the facial muscles, of limbs and the trunk; acts of violence to oneself as biting the nails or the clenched fist; bright redness of the face and the standing up of the hair on the head.

If we were to go through the entire list of the emotions and analyze their organic modifications, it would be

seen that their modifications are much like those which we have just enumerated in the instances of the above-mentioned emotional states. It must be insisted however, that all descriptions of emotional reaction are not absolutely true. They are true only of the average man, because among men there exists too much individuality of response. Thus, everyone of us has some personal idiosyncracy of expression. Certain men differ in the expression of their laughter or their tears; some persons will blush or grow pale where others do not. Professor James states that

> We should find a like variation in the objects which excite emotion in different persons. Jokes at which one explodes with laughter nauseate another, and seem blasphemous to a third.[134]

Situations that produce fear and shyness within one individual, will produce ease and a sense of power in another. And so it goes with all the beings on this globe, each and everyone unique in his emotional response to stimuli. This uniqueness of response with respect to objects plays an important role in the making of our moral judgments which are ultimately based on our 'feeling' states in the presence of objects.

A further complication which makes the descriptive

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[134] Ibid., p. 448.

method of these states so unproductive is that the internal shadings of emotional feeling merge endlessly into each other. For example, we discriminate between hatred, antipathy, animosity, dislike, aversion, malice, spite, vengefulness, abhorrence, etc. But it may be asked, are these feelings not distinguished more by their different stimuli rather than by their subjective concomitants, which undoubtedly are very much the same. James confesses that he finds the descriptive approach to the emotions unbearably tedious and totally unproductive of results. A further error, in his view, is to regard them as absolutely individual things. The consequence is that they are given no central point of view, nor a deductive principle whereby new and deeper knowledge of these phenomena could result.

C. The Physiological Theory of the Emotions; the Coarser Emotions.

The clue to escaping this morass of description would appear to lie in assuming these emotional states as products of more general causes (as 'species', thanks to Darwin, are now regarded as products of heredity and variation). James

says that the deductive or generative principle must be this: THE GENERAL CAUSES OF THE EMOTIONS ARE PHYSIOLOGICAL. Here then is the crucial 'point of departure'; it is as Professor James says "the goose which lays the golden egg (making) the description of each egg already laid . . . a minor matter."[135] We must now give as concise an expose of this central Jamesian doctrine as is possible. We turn first to the 'coarser' emotions, grief, fear, rage and love in which all recognize a strong organic reverberation. They are denominated coarse because of the very definite visceral changes they produce.

A Professor C. Lange of Copenhagen, Denmark, published a pamphlet in 1885 proposing this same physiolgical theory of the constitution of the emotions. But Professor James had published his account the previous year in an article in the scholarly journal Mind. It was obvious that both had thought of the theory, albeit independently, for some time. It has therefore come to be known as the James-Lange theory of the emotions.

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[135] Ibid., p. 449.

This new and revolutionary theory is usually difficult to grasp in the first reading because, as Professor James himself admits, "it goes against our natural way of thinking about these emotions."[136] We usually assume that there is at first the perception of some fact, which then excites the mental affection which is called the emotion, and that as a consequence of this state of mind, call it fear, if you will, the bodily perturbation ensues. Professor James says:

> Common-sense says, we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike.[137]

James insists, however, that in this instance common-sense is wrong. The order of sequence which it suggests, namely, the succession of, or induction of one mental state by the other, is incorrect. For, he argues that without the bodily states following on the perception, the latter would be purely cognitive in form, pale, colorless, destitute of emotional warmth. This means that if one were to perceive the bear, he would infer it best to run; if one were to receive the insult, he

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[136] Ibid., p. 449. [137] Ibid.

would infer it proper to strike.

These would, according to James, be but pure cognitive acts. It is very doubtful if activity would result from such mental states. One must really 'feel' the fear and the anger if action is to occur. Thus it is essential to interpose between the bare sensation-stimulus and the feeling, the bodily reverberations which are constitutive of the emotion. If it is borne in mind that 'feeling' is a cognitive function, James' doctrine is quite clear since the 'knowing' is intimately tied up with the perturbations that take place within the body. It is for this reason that the physiological changes must be interposed between two actions: the first action is that of the stimulus - the 'exciting fact'; the second activity is the appearance of the idea or feeling in the mind. One must not forget the dualism that exists between body and mind. And as we have said, the feeling states serve to connect the two. The body, conceived after the manner of a sounding board, reverberates throughout by means of the wave-like currents and two things happen: emotion is felt and action results.

It should be obvious that the reflex-arc doctrine of

physiology is the dominant factor here. We have the stimulus acting upon the organism, which in turn acts upon the environment. James emphatically concludes that these bodily reverberations are the emotions and nothing else can be.

Still it must be granted that common-sense flies in the face of this reality to assert otherwise.

Nevertheless, James insists that the more rational statement of the facts is this: we feel (know) sorrow because we cry; that is, the activity of the tear ducts is the emotion and feeling this activity is sorrow; again, we feel angry because we strike (anger is akin to muscular tension necessary to inflict a blow). In discussing anger and pugnacity as instinctive reactions, James says,

> Certain perceptions must immediately, and without the intervention of inferences and ideas, have prompted emotions and motor discharges.[138]

This was obviously true of our ancestors and it is still true of us their descendants. James is basing his argumentation very heavily on Darwin's hypothesis of the evolution of animals. In this view consciousness is something that has

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[138] Ibid., p. 412.

evolved too, but is, relatively speaking, a later accretion; the blind bodily reverberations which produce automatic instinctive reactions being prior and more natural. Is it any wonder that they should precede the mental awareness which is so late in the evolutionary scale.

Succinctly stated then, the James-Lange theory holds "that bodily follow directly the perception of the exciting fact, and that our feeling of the same changes, as they occur is the emotion."[139] It might also be pointed out that James' doctrine of the emotions makes it almost imperative that he discard, if he ever considered it, an appetitive order of activity in man distinct from the cognitive. Given his almost exclusive physiological view of man, 'feeling' had to be in the cognitive order.

All too aware of the outcry that his theory would provoke, which indeed it did, James offered the basic considerations on which he structured his emotion theory. It is profitable to consider these 'reasons' if only because they make the theory more intelligible.

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[139] Ibid., p. 449.

Firstly, as physiology clearly shows, objects do excite bodily changes by a preorganized mechanism, namely, the nervous system. These changes are so subtle and so numerous that the entire organism can truly be called a sounding board, which every change of consciousness (perception), however slight, may make reverberate. The immense number of bodily parts modified in each emotion makes it at once a unique thing as is the mental mood itself. James points out that this immensity makes it extremely difficult to reproduce without a stimulating cause the total expression of any one of them.

The second consideration in support of the theory is that everyone of the bodily changes, whatever it be, is felt, acutely or obscurely, the moment it occurs. This is so because

> . . . our whole cubic capacity is sensibly alive; and each morsel of it contributes its pulsations of feeling, dim or sharp, pleasant or painful, or dubious, to that sense of personality that everyone of us unfailingly carries with him.[140]

This means that even the slightest of troubling prob-

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[140]Ibid., p. 451.

less that we attend to finds that the focus of one's bodily consciousness is on the contractions of the eyes and brows. We are thus made aware of the emotion of 'concern' through these feelings of contraction and not the nature of the problem. If momentarily embarrassed, it is the physiological alteration in the pharynx that compels either the swallow, or a clearing of the throat and even a slight cough. The embarrassment, therefore, is the feeling of these organic changes in the pharynx. The reader is asked to bear in mind that what we know are our own interior states -- these are the emotions and we attend to them.

The final and vital point offered as evidence is this, that if one were to imagine a strong emotion and then abstract from the consciousness of it, all the feelings of its ordinary bodily concomitants, one would find that nothing remained, "no mind-stuff out of which the emotion can be constituted."[141] The term 'mind-stuff' very definitely gives the key to the understanding of the doctrine, for it indicates that the feeling is the idea or thought - in short, the bodily

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[141] Ibid.

modifications are the cause of the mental feeling. The feelings of the bodily change gone, only a cold, flat, neutral state of intellectual perception would remain. James asks,

> What kind of an emotion of fear would be left if the feeling neither of quickened heart-beat nor of shallow breathing, neither of trembling limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible for me to think.[142]

In effect, life would become but a series of feelingless cognitions and nothing more, and existence would be dragged out in vacuity. This vacuity would seem to suggest very strongly that there would be no contact with the outer world. No, Professor James insists that a purely disembodied emotion is a non-entity. It is even inconceivable. Thus, he will not entertain the common-sense view of the matter despite its universal popularity. James further insists that this theory be not interpreted as a materialistic doctrine because of its emphasis on physiology. It is true that our emotions are conditioned by nervous processes; that they are sensational processes, due to inward currents set up by physical happenings.

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[142] Ibid., p. 452.

The spiritualists or platonizers, as Professor James calls his opponents, have always viewed these physiological processes as vile and base. But the point is that our emotions must 'inwardly' be whatever they are for they carry their own inner measure of worth with them. They are, in effect, deep, pure, worthy, spiritual facts of human life, whatever be the physiological ground of their origin. For we shall soon see that our aesthetic, moral and metaphysical relations are due to the emotions as well.

By way of summary then, if this theory be true, then each emotion is the result of a sum of elements. These elements in turn are caused by physiological processes - organic changes, the latter being the reflex effect of the exciting object. It is quite clear then that emotional activity is reducible, in terms of its origin, to the order of the physiological.

Concerning the classification of the emotions, James insists that this is a superficial type of inquiry which, in a word, is a waste of time. It is the causal questions which constitute a deeper and more rewarding order of inquiry. Causal questions demand what type of change does this object

bring about and what changes does the other type of object affect in the organism? Again, why do objects excite these particular changes and not others?

The answer to these causal questions is simply given, once it is granted that emotions are just so many reflex acts aroused by an object and forthwith felt. Then too, it can readily be seen that there is no limit whatsoever to the number of different emotions which can be felt. James says that his theory also explains why the emotions of different individuals can vary indefinitely, for any sort of reflex effect is possible, and reflexes do actually vary indefinitely. Professor James cites some cogent examples given in Professor Lange's treatise on the emotions:

> We have all seen men dumb, instead of talkative, with joy; we have seen fright drive the blood into the head of the victim, instead of making him pale; we have seen grief run restlessly about lamenting, instead of sitting bowed down and mute.[143]

This divergence in emotional expression is due to the qualitative difference of an individual's physiological make-up.

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[143] Ibid., p. 454.

Thus, one and the same object can work variably on the blood vessels of different men (they do not react alike), and moreover, the current during its passage through the brain to the vaso-motor centers can be differently influenced by earlier impressions in the form of memories or the These associations are the consequence of fixity of the neural paths through which the current runs. Yet even this habit-association is not an unalterable fixity.

Thus, physiological theory can better and more fully explain heretofore unexplainable psychical phenomena, and questions concerning the typical expression of, for instance, anger or fear have no objective meaning at all.

The meaningful question is rather how any given 'expression' of anger or fear may have come to exist? This, Professor James tells us, is on the one hand, a real question of physiological mechanics, and one of evolutionary history on the other.

We shall defer to a later page this matter of the 'evolutionary genesis' of the emotion. For the present, let us examine some serious objections to the theory which Professor James himself foresaw and attempted to answer.

Professor James frankly admitted that his theory was but a hypothesis, only possibly true, and that much was lacking in the way of conclusive proof. But he argued that the only way to disprove it was equally difficult, if not impossible. Such a disproof would need to take any one of the emotions and demonstrate the existence of qualities of feeling additional to those which are derived from the organs affected at the time of the experience of the emotion. Such additional qualities would of necessity have to be 'purely spiritual qualities' of feeling (they could not be additional organic ones) and to detect such spiritual entities is beyond the task of human ingenuity. There is, for example, no absolute criterion by which to distinguish between spiritual and corporeal feelings, and, in fact, when we attempt to sharpen our introspection, the more localised do our qualities of feeling become, which only makes discrimination between them all the more difficult.

Turning to the objections then, the first simply states that there exists no real evidence that particular perceptions do in fact produce wide-spread bodily effects stemming from an immediate physical influence prior to the

arousal of an emotion or an emotional idea.

James insists that the evidence is abundant. In listening to poetry, drama, or heroic narrative a shiver of the skin, a radiance of the heart, and a profusion of tears coses over us unexpectedly. The same is true when one is listening to music; certain passages of a symphony or sonata give us 'goose-flesh', whereas others may make us 'swell' with joy. There is the well-known example of an unusually loud noise which always produces a sort of fright. Yet the emotion felt is not combined with the idea of danger, nor does it result from habit-formed associations, or other mental processes. This phenomenon of fright in the presence of the loud noise follows immediately without a trace of the 'spiritual', that is, a mental idea of fear. In battle many men can never grow accustomed to being near the exploding artillery, even though they realize that there is no danger involved. This means that the bare sound is too much for them. In those instances where an 'ideal' emotion (thought) seems to precede the bodily symptoms, it is but the anticipation of the symptoms themselves. Thus, a person who has already fainted at the sight of blood will witness the

preparations for a surgical intervention with uncontrollable heart-sinking and anxiety. He simply anticipates certain feelings and the anticipation precipitates their arrival. People experiencing morbid terror report that what they seem to fear more than anything else is the fear itself, that is, the organic elements that constitute it.

These instances of emotional experience should persuade even the most obdurate that the emotional state both begins and ends with its manifestations. This is to say that the emotion has no 'mental status' except as the vivid feeling of the manifestations, that is, the idea of them.

It is noteworthy how frequently in the course of the exposition of his hypothesis on the emotions, James kept repeating over and over again "that the manifestations constitute its (the emotion's) entire material, and sum and substance."[144] His whole physiological approach to man and his activities could demand nothing less. Like all of the physiological psychologists of the nineteenth century, William James rejected any cognitional - that is, mental process as ante-dating the manifestations or of being their cause. Like the good physiologist that he was, he sees the

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[144] Ibid., p. 458.

physiological changes as blind, reflex, organic responses to outward stimuli. The function of the mind, in his view, is to 'feel' the manifestations. This is why he maintains that,

> . . . sometimes thinking of the symptoms of the emotion itself may have the effect of their arousal. In sentimental natures the thought of yearning will produce real 'yearning'.[145]

This statement surely assigns to the cognitive function a role in the reproduction of the emotion, even if it be only to recall a previous manifestation. But there appears to be more for the mind to do, for Professor James also says:

> These cases ought to make us see how in all cases <u>the feeling of the manifestations</u> may play a much deeper part in the constitution of the emotion than we are wont to suppose.[146]

This could only mean that organic manifestations would be senseless bodily effects, if they did not lead to action of whatever kind. To lead to action they must be felt, that is, known. As Professor James candidly states:

> The current of life which runs in at our eyes or ears is meant to run out at our hands, feet,

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[145] <u>Ibid.</u> [146] <u>Ibid.</u>

> or lips. In plainer English, perception and thinking are only there for behavior's sake.[147]

The thoughts (feelings) produced by the incoming currents serve only to determine the current's direction to whatever organs shall in these circumstances, on the whole, act in the best manner for our welfare.

According to James, the best proof that the immediate cause of the emotions is a physical effect on the nerves, is to be found in those pathological cases in which the emotional state is objectless. That he should consider this the best proof need not be surprising, since as a psychologist he was greatly interested in the pathological conditions that psychotics manifested. He insisted that one could find in every institution for the mentally ill, examples of absolutely unmotivated fear, anger, melancholy, conceit and apathy. Let one take as a concrete example the victim of morbid fear. The bodily manifestations are these: inability to draw deep breath, fluttering of the heart, pre-cordial anxiety, an almost irresistible impulse to take a cowering attitude and to sit still, and other visceral changes not

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[147] William James, "Reflex Action and Theism", Essay from The Will to Believe, (New York: Dover Publications, 1956), p. 114.

yet completely known (late nineteenth century). The combination of these factors produces an indescribable dread which is unquestionably morbid. Yet there exists no external stimulus for all these various organic changes. It can only be assumed that the nervous system of such victims is 'labile' in some one emotional direction, with the consequence that almost every stimulus, appropriate or not, runs in that direction and engenders this complex of feelings of which the psychic aspect of the emotion consists. It is similar to the experience of seasickness when

> . . . every smell, every taste, every sound, every sight, every movement, every sensible experience whatever augments the nausea; just so the morbid terror or anger is increased by each and every sensation which stirs up the nerve-centers.[148]

The emotion here is nothing but the feeling of a bodily state, and it has a purely bodily cause. The intellect may be so little affected that it can play the role of a cold-blooded spectator, noticing the absence of any object for the emotional experience. That this and all like cases are pathological cannot be denied. But one of the chief merits

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[148] William James, Principles, Vol. II, p. 461.

of the James-Lange theory of the emotions is that both the pathological and the normal cases can be placed under a common schema.

The second objection goes as follows; a corollary of the theory, if it be true, should be that any voluntary and cold-blooded arousal of the manifestations of a special emotion ought to result in the appearance of this emotion. But this is manifestly not so, because actors can with conviction simulate all sorts of emotion and yet within be utterly calm, experiencing no organic perturbation. Thus we can pretend to cry and yet feel no grief.

Professor James replies that such a test cannot be demanded of many of the emotional states, precisely because their manifestations involve organs over which no voluntary control can be exercised. This is precisely the case with the tear ducts, for few people in pretending to cry can bring forth real tears. But there are other examples, however, which will corroborate the corollary. Everyone, for example, knows how panic is intensified by flight - the bodily movement exciting more and more the inward perturbation, which results in an intensified emotion. The giving way to the

manifestations of grief or anger tends to increase these emotional states. Notice should be taken of people in a state of rage who are counselled not to 'work themselves up', since repeated outbreaks of expression tend to head toward a climax; and calm is restored only with the apparent exhaustion of the physiological machinery. On the other hand, if we refuse to express an emotion it will die. This is so because the suppression of the actual movements characteristic of the emotion has a tendency to suppress as well the inward nervous currents that incited them, and thus, external quiescence will be followed by an internal one. Surely this effect could not happen if there were not some dependence of the cerebral wave upon the free outward manifestation.

By the same type of interposition we can bring forth a dormant feeling. We need but act out the external manifestations and thus infect or excite the nerves that produce them, and the result will be a diffusive current productive of the emotion by our actions 'ab extra'. Who has not been able to assume a cheerful tone of mind by forcing a hilarious expression. Professor James expresses this point so well, that I feel constrained to quote his text. He says in regard to the

dissipation of emotional moods of either sullenness or depression:

> Smooth the brow, brighten the eye, contract the dorsal rather than the ventral aspect of the frame, and speak in a major key, pass the genial compliments, and your heart must be frigid indeed if it do not gradually thaw.[149]

James admits that all of his contemporary psychologists recognize this, but their failure is to realize its full import. The import that it would seem to possess is the verification of the James-Lange theory.

One consequence of this detailed analysis of the coarser emotions should be a greater realization of the intimate relationship that exists between the mental life and the bodily frame. Rapture, love, ambition, indignation and pride, which seem so removed from the body, when they are considered only as mental states, if they be considered as feelings, they must be of the same 'soil' as the grossest bodily sensations of pleasure and pain.

The bodily origin of the coarser emotions has been sufficiently established. Therefore we must now examine the

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[149] Ibid., Vol. II, p. 463.

more spiritual states of emotional sensibility, those which are termed the 'subtler emotions'.

D. The Subtler Emotions and their Necessary Relationship to Visceral Excitations.

The major issue for Professor James in the matter of these so-called subtle emotions is to determine whether they too result from bodily reverberations, as do the coarser emotions just discussed. The answer to this problem is not too difficult to discern, if it be only kept in mind that feeling is essentially a cognitive function in the view of William James.

The subtler emotions consist of our moral, intellectual and aesthetic feelings. In the next chapter we shall discuss in detail the role of these 'feelings' with respect to the genesis of so-called abstract knowledge. Our task here is to determine the origin of these somewhat 'spiritual' feelings.

Professor James maintained that these subtle feelings stem from the awareness of harmonies of sounds, the concords of colors, of lines, of logical consistencies and finally the

appropriateness of means with ends or purposes, that is, teleological fitnesses. The mental grasp of these qualities gives the knower a pleasure that seems ingrained in the very form of the representation. Now it would appear that the derived feeling of pleasure from the apprehension of these relations appears in no way dependent upon any reverberations emanating from parts below the brain, that is, the visceral regions which, as we have seen, was the source of the coarser emotions. Now do these appearances adequately describe the fact.

James credits the Herbartian psychologists for having first distinguished the feelings due to the relational forms in which the ideas can be arranged. In the view of these psychologists a mathematical demonstration can be as 'beautiful' as any drawing; an act of justice as 'neat' as any melody, despite the fact that the beauty and the neatness have nothing to do with the original sensation which was the source from which the mind made the demonstration and also perceived the justice of the perceived act. These feelings result from the mental apprehension of relations existing within the ideas. Of them, Professor James says that they are brain-born. Textually he states it this way,

> We have, then, or some of us seem to have, genuinely cerebral forms of pleasure and displeasure, apparently not agreeing in their mode of production with the coarser emotions that we have been analysing.[150]

Two observations are appropriate here. First, these subtler emotions do not seem to occur in every brain. This fact would appear to be a foundation for distinguishing between different types of brains. Secondly, these subtler emotions are genuine feelings resulting from, however, nerve currents reverberating within the channels of the brain. The problem is that these are not felt in the way that the coarser emotions were by the production of visceral reverberations. Are they, then, to be considered non-organic, quasi-spiritual entities?

Ever conscious of any possible objection that might be raised against his over-all theory of the emotions, Professor James was convinced that many people would be quick to see in this second type of emotion a devastating argument against the physiological theory of the emotions. For it can

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[150] Ibid., Vol. II, p. 468

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be argued that if musical perceptions[151] and logical ideas can immediately arouse a form of emotional feeling (the idea), why is it not possible to assume that this is the case with the coarser emotions? What need is there to interpose bodily reverberations? Thus, the argument goes, though prompted by different kinds of objects, namely, perceptions originating from outer-reality - the feeling or idea which the coarser emotions give rise to is just as immediate as those of the subtler emotions, and the bodily changes simply follow afterward in the nature of something added to the emotion.

This, according to Jansen, is nothing but another effort to interpose a mental element between the perception of the stimulus and the bodily reverberations; a mental element, it might be added, which would be causative of the bodily reverberations which are then felt. In a word, it is the old rationalistic trick of demeaning the physiological aspects of our being.

151Professor James maintained that while the sounds from which musical harmonies arise are perceptions, still the harmonies are brain-born perceptions, or the better term might be apprehensions. Some minds perceive them, others do not.

Still, such a view seems justified by the supposed difference in the mode of production of the subtler emotions, since they do not seem to appear to require bodily reverberations as a necessary condition for their apprehension. Insofar as they are brain-born, they have no bodily reverberation.

We might pause here with some profit to reflect on just what is involved in this matter of similarity or dissimilarity with respect to these two types of emotion. These 'subtle' feelings or ideas must be brain-born since they have no resemblance or correspondence in the outer world. More on this will be discussed in the next chapter when we shall discuss abstract knowledge. But if James' theory of knowledge is to obtain, namely, that we know by way of feeling, then these subtler feeling-emotion states must also produce some kind of reverberations in order that they be known. One might summarize the whole doctrine that is being espoused in this phrase, "TO PRODUCE FEELING IS TO BE KNOWN." It should then be clear that much is at stake on this question of whether the subtler emotions produce bodily reverberations. Let us now attend to the resolution of the problem.

James formulates the attack on his physiological theory of the emotions by using the substance of an article which appeared in the scholarly journal, The Mind, written by his friend Edmund Gurney. Gurney's article was critical of James' theory of the emotions because he maintained that the theory confused two things which musical psychology always distinguished, namely, a) the mainly sensuous effect of mere streams of masses of finely colored sound, and b) the distinctive musical emotion resulting from the form of a sequence of sound, its melodic and harmonic individuality, even realised in complete silence. It is with the former sensuous effect that the physical reactions, such as the stirring of the hair and the tingling and shiver are, by far, most obviously connected. Professor Gurney argued, however, that he personally had received as much emotion from much music 'in silent representation' (idea) as when it was presented concretely by the finest orchestra; and it was in the presence of the latter that he almost exclusively associated the cutaneous tingling and the hair-stirring. He insisted that his enjoyment of the form, of the note-after-noteness of a melody, is no mere critical judgment of correctness which is,

he conceded, a purely abstract, intellectual activity. Rather, it was 'quint-essentially' an emotion. There were hundreds of other bits of music which he judged to be correct without receiving an 'iota' of emotion. Gurney was arguing, of course, that emotion can be divorced from sensational processes of any kind. In the instance of the 'silent representation' (the idea), the mere recall in the imagination by way of memory was sufficient to produce the emotion. Thus, he concluded that Professor James' theory does not hold, for it seems that a pure mental state could call up a feeling or emotion.

James replied very simply that with men like Gurney, who possessed such finely attuned musical organizations, the purely acoustic form (hearing) gives such an intense degree of sensible pleasure that the lower bodily reverberation is either small or of no account. In fact, such sensitive individuals totally miss the reverberations. Thus, James insisted that nothing stated by Gurney could convince him that an emotion can be divorced from sensational processes. He insisted, for example, that the aesthetic emotion, consisting in that pleasure which results from the apprehension of com-

binations of sounds, is an absolutely sensational experience. This could only mean that it is an optical or auricular (organic) feeling which is experienced directly and immediately. Furthermore, James points out to re-enforce his position, that works of art and musical compositions can also arouse added secondary pleasures in addition to the primary pleasures. These would be the vistas of memory and association that certain paintings bring forth; or the mystery and gloom that certain musical scores evoke. As James notes "In the practical enjoyment of works of art by the masses of mankind these secondary pleasures play a great part."[152] Who has not attended a concert where the incoming sounds of the orchestra produce various additional feelings arising from recalled memories that give rise to depressive or joyous states of mind? Even the feelings of the lower senses can have these secondary accompaniments which are due to the arousal of associational trains of currents which reverberate. Thus, a flavor may

> . . . fairly shake us by the ghosts of 'banquet halls deserted' which it suddenly calls up; or a smell may make us feel almost sick with the waft it brings over our memory of 'gardens that are

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[152] Ibid.

ruins, and pleasure-houses that are dust'.[153]

But as one's aesthetic sense becomes more refined, less importance is attached to these secondary pleasures; the concentration is on the primary sensation of beauty or harmony. Still this discrimination between the primary feeling of the beautiful or the harmonious as a pure incoming sensible quality and the secondary emotions which are, so to speak grafted thereupon, must necessarily be made. Otherwise there exists the temptation to conceive the secondary emotion as a spiritual, non-organic kind of thing, as Professor Gurney has done. Thus, being true to the physiology of the situation, James says that even these secondary emotions are for the most part made up of incoming sensations, for they are aroused by the diffusive wave of reflex acts which the sensed object sets up. We must here recall that the body is a sounding-board upon which an incoming stimulus sets up a wave of reverberations; a diffusive wave of reflex acts. These bodily changes produce a whole series of feeling states. As James notes;

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[153] Ibid., p. 469.

> A glow, a pang in the breast, a shudder, a fulness of the breathing, a flutter of the heart, a shiver down the back, a moistening of the eyes, a stirring in the hypogastrium, and a thousand unnamable symptoms besides, may be felt the moment the beauty excites us.[154]

The whole organism becomes excited by this diffuse stimulus, and a whole series of emotional manifestations results from all the perturbations that were caused.

Moreover, these same symptoms also result when we become excited by moral perceptions, such as pathos, magnanimity, or courage, which are emotional feelings that can be experienced in relation to other men or extrinsic objects. Here too the voice breaks and a sob rises in a chest struggling for breath; the fingers may tighten, the nostrils dilate even while the heart palpitates more quickly. The symptoms of such moral feelings are unnamable thousands.

This means that these physiological 'ingredients', as Professor James calls them, of the subtler emotions show them to be like those of the coarser emotions, and far from negating the theory, are but the additional confirmation of

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[154] Ibid., p. 470.

the physiological nature of the emotions.

The consequence of this is that in every case of intellectual or moral 'rapture', there must be a bodily reverberation of some kind with the thought of the object, and most importantly, a cognizance of the quality of this reverberation. For, as James puts it:

> Unless we actually laugh at the neatness of the demonstration or witticism; unless we thrill at the case of justice, or tingle at the act of magnanimity; our state of mind can hardly be emotional at all.[155]

We must feel the bodily reverberation; become aware of its peculiar quality for otherwise there will be no emotional reaction and, we might add, no knowledge of outer reality! Instead there would be but the intellectual perception of how certain things should be denominated, that is, as neat, right, witty, generous, just and so forth. But this is a judgmental state of the mind, as a class belonging among those that are awarenesses of truth. In short, it is a cognitive act pure and simple, at once devoid of any feeling-reaction, and therefore of little cash value. As James

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[155] Ibid., p. 471.

wryly remarks in another place, "The more we live by our intellect, the less we understand of life." It is the inner joys and virtues (emotions) which are the essential part of life's business since these produce reactions and to experience these is to truly understand life.

But, in fact, moral and intellectual cognitions are rarely to be found without emotional accompaniment. Professor James grants that one can find intellectual emotion, pure and undefiled, in those instances where a long familiarity with a certain class of effects, even in the aesthetic category, has blunted emotional excitability. (These were the source of Professor Gurney's objections.) The important word is blunted, for it means that the reverberations are still there, but they are hardly felt. As Professor James expresses it:

> In every art, in every science, there is the keen perception of certain relations being right or not, and there is the emotional flush and thrill consequent thereupon.[157] And these are two things, not one.

The experts concentrate on the relations which are perceived as right. But after all is said and done, this apprehension

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[157] William James, Principles, p. 472.

of rightness is a 'feeling' of the fitness of the related ideas, which means that feelings must still be involved, even if the result is an intellectual emotion, at once pale, dry, and possessing no 'glow'. The uninitiated layman experiences in their fulness the bodily commotions, but he does not share in the keen perception of the master, for in him the critical judgment is at it lowest ebb. But it is obvious that the philistine has the richer experience, for in him the 'bodily sounding board' still vibrates and is felt, whereas in the master it is mute.

Even in the case of 'divine philosophy', as James calls it, emotion plays a significant role as we shall see in some detail when the origin of the metaphysical axioms are examined. It would appear that the only service which the emotion seems to provide is the effort needed to center our attention upon the task of constructing the philosophical system, and supplying the feeling of ease and relief (mainly in the breathing apparatus) when inconsistencies within the structure are ironed out, and thoughts run smoothly again. Thus, emotion and cognition seem parted even here. But James insists that it is not so, for the cerebral processes result-

ing in metaphysical axioms "need help from parts below".[158] namely the bodily region whence the coarser emotions take their origin.

E. Emotions and Neural Processes; Emotional Differences Between Individuals.

Another benefit resulting from the Jamesian theory of the emotions is that it requires no special brain-centers for emotion. For, if the neural processes which underlie emotional consciousness be those which this theory proposes, then all that the brain need contain are sensational, associational, and motor elements. The emotional processes occur in the areas already assigned as the centers of the motor and sensory activities. Thus the emotional process is not something 'sui generis', but it resembles the ordinary perceptive and motor processes, simply adding the element of 'feelingness' to the perceptive or motor activity. It must be remembered that Professor James held the then contemporary view of physiologists, that the brain's cortical surface was nothing more than the surface of projection of every sensitive spot and every muscle in the body. As Professor James

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[158] Ibid., p. 472.

states it:

> Supposing the cortex to contain parts, liable to be excited by changes in each special sense-organ, in each portion of the skin, in each muscle, each joint, and each viscus, and to contain absolutely nothing else, we still have a schema capable of representing the process of the emotions.[159]

Thus an object stimulates a sense-organ, the inward current produced affects the cortical part of the brain (the surface of the cortex being the surface of projection of this and every stimuli) and perception of the object-stimulus follows, that is, an idea is produced. If the cortex be stimulated from within by some brain processes, it gives rise to an idea of the same object. Instantaneously, the reflex currents pass down from the brain through their pre-ordained channels and change the conditions of the muscle, skin and viscus. James says,

> . . . and these alterations, perceived, like the original object, in as many portions of the cortex, combine with it in consciousness and transform it from an object simply apprehended into an object emotionally felt.[160]

Once this feeling occurs a reaction of the organism will

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[159] Ibid., p. 473. [160] Ibid., p. 474.

fallen.

Thus, inward currents, whether coming from outside the organism or originating from internal causes within the brain, account for the two kinds of knowledge: that resulting from outer stimuli - sensations, and that involving the perception of inward relations existing between ideas in the mind, since these latter must be 'felt'. Professor Jones most appropriately comments that

> . . . no new principles have to be invoked, nothing postulated beyond the ordinary reflex circuits, and the local centers admitted in one shape or another by all (physiological-psychologists) to exist.[1]

A word must be said now about the emotional differences which exist between individuals, for they do have ethical implications. It can be stated as a general rule, that the revivability 'in memory' of past emotional experiences is ordinarily very small indeed. We can remember that we experienced anger, underwent grief, but this is ideational; we do not feel the anger or the grief. But this difficulty can be circumvented by the production of 'new' experiences of

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[1] Ibid.

anger or grief or rapture, through the lively thought of their exciting cause the stimulus. It is true that in this instance the cause is only an idea, but, as we have seen above, this idea (within the cortex) is able to produce the same organic irradiations -- the reflex currents passing down through the channels causing alterations -- so that the emotion is now once more a reality. It is by no means the same reality, nor are its originating currents the same, but by it we have 'recaptured' what might be termed, 'that old feeling'. Shame, love, and anger are especially susceptible to this type of revivification by the ideas of their objects.

Such being the case, it can be said that two things are indispensable for an abundant emotional life: firstly, the possession of an emotional temperament; secondly, a lively imagination for the recall of objects and the circumstances in which they were perceived. It is essential that the two conditions always co-exist in the same individual, for one without the other is of no consequence at all. Thus, one may possess a very acute and sensitive emotional temperament, but it avails nothing if the imagination be poor. Such a life would be utterly cold and dry. Still, Professor James

insists that it is just such a life which is best suited for the scholar, since without a strong visualizing ability, his trains of thought risk little disturbance by emotional incursions.

This brings up one final characteristic of the emotions, namely, that they tend to blunt themselves by repetition more rapidly than any other sort of feeling. The instincts as a class of feelings, tend to fade away, because of non-usage. But in the case of the emotions, we 'accomodate' ourselves to their stimulus so that the result is a blunting of the feeling with every renewed experience. There is another contributory factor here, and it is the peculiar fact that the 'diffusive wave' of reflex acts tends always to become more narrow in its scope. This phenomenon is observed in connection with the muscles: the more one exercises at anything, the fewer the muscles that need be employed. Likewise in this matter of the emotions becoming blunted, the more frequently we meet an object, the more calmly and habitually do we think about it and behave toward it. The great degree of organic perturbation at first necessary for action is lessened with each encounter. This is but

another manifestation of the economy of nature providing provisionally an originally strong bodily reverberation in the presence of a stimulus on which precise and determinate reactions could arise. Thus, it may have happened that the first time the object was met neither act or thought occurred except the organic perturbation. Now, after much experience, the object is viewed with no emotion whatsoever. But James adds that this is beneficial, for

> . . . this tendency to economy in the nerve-paths through which our sensations and ideas discharge, (reverberations) is the basis of all growth in efficiency, readiness, and skill.[162]

It was just this kind of blunting that prompted Professor Gurney's objection to the theory of emotions. But no one should think he has lost by this blunting, for it is really gain. For what is lost in rapture, is gained in inward growth. This means, physiologically speaking, that the brain-paths of the association, and memory have become more and more organized within the individual, and that through these the stimulus-current is channeled into nerve-paths for the most appropriate

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[162] Ibid., p. 476.

bodily reaction, be it the writing finger or the speaking tongue. There is then at this stage of evolution of the individual, no need for the general diffusive wave. The whole series of intellectual associations, the trains of memories, the logical relations perceived among objects as well as past emotions, can thus be prodigious within the same mind. Their cash value lies in this,

> The more of all these trains an object can set going in us, the richer our cognitive intimacy with it is. This cerebral sense of richness seems itself to be a source of pleasure, possibly even apart from the 'euphoria' which comes up at times from the respiratory organs.[163]

Professor James distinguishes between these two kinds of euphoric feeling - cerebral and bodily - because he maintains that, if there is such an entity as a 'purely spiritual' emotion, devoid of organic feeling, which in fact, he denied, then it is this cerebral sense of abundance and ease, this feeling of the unimpeded activity of thought. It is manifested with no bodily perturbation (visceral) and thus is not an excited state of consciousness. It should be noted that Pro-

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[163] Ibid., p. 477.

fessor James in the text says "If there 'be' such a thing as a purely spiritual emotion",[164] which indicates that he was hardly ready to concede the point. Emotions, whether coarse or subtle, were for him rooted in bodily perturbations. But in certain states of intoxication this cerebral euphoria could become intensely exciting. Professor James cites his own personal experiences with a chemical intoxicant. He says:

> I can hardly imagine a more frenzied excitement than that which goes with the consciousness of seeing absolute truth, which characterises the coming to from nitrous-oxide drunkenness.[165]

One is here reminded of the reported rapturous insights into reality, which present-day users of the hallucinogenic drugs describe. Especially is this the case with LSD. In James' day the chemicals which produced this rapturous insight into truth were chloroform, ether and alcohol. James allows that the insight of truth may be 'a strong emotion', spiritual in the full sense of the word. But the insight is, unfortunately, accompanied with all kinds of strange bodily feelings and disturbances in the incoming sensations (LSD performs the same way today),so that it would appear impossible to affirm

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[164] Ibid. [165] Ibid.

that even this emotion is without bodily perturbation. Professor James says: "I cannot see my way to affirming that the emotion is independent of these (changes)."[166] He makes this one concession, however, to this possible exception of his theory concerning the physiological basis of emotion, namely, that if its (emotions) independence from bodily origin be possible, then it is with these 'theoretic raptures' that the defense must begin. What is clear is that for Professor James the emotions are physiological changes within the body, and that these are the source of our ideas, whether the latter be of an object-stimulus directly acting on the organism or an abstractidea originating from cerebral changes which, however, are felt in the body as well. We shall amplify on the mental production of such abstract knowledges in the next chapter. Meanwhile, one very important function of the emotions must be mentioned.

F. The Emotions and Reality-Belief.

Before terminating this discussion of the emotions, it

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[166] Ibid., p. 478.

is essential to comment briefly on their role with respect to the real. In the chapter dealing with man's perception of reality,[167] James says that belief is the mental state or function of cognizing reality. Thus, in the case of belief, the object-stimulus is not only apprehended by the mind, but is held to have reality. Let it be recalled that for James the mind is not in direct contact with outer reality. It is the body which has this contact. Thus, there exists a problem of how the mind can know the real outer world.

In its inner nature, we are told, this belief or sense of reality is a sort of feeling more allied to the emotions than to anything else. Professor James cites a Mr. Bagehot, who distinctly calls it the 'emotion' of conviction. What characterizes this 'emotion-belief state' is a cessation of all speculative agitation, and the acceptance of an idea which becomes inwardly stable, and so fills the mind that all other ideas/that/ contradict it are excluded. Thereupon motor effects appropriate to the situation follow.

But what kind of objects shall merit this belief.

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[167] William James, Principles.

Two things are certain: a) in the strict and ultimate sense of the term existence implies that "everything which can be thought of at all exists as some sort of object, whether mythical object, individual thinker's object, or object in outer space, or for intelligence at large."[168] B) the mere fact of appearing as an object at all is not sufficient to constitute reality. James says that this condition of mere appearance which is metaphysical reality, applies only to God. But this is not the case with man. He says,

> . . . what we need is practical reality, reality for ourselves; and, to have that, an object must not only appear, but it must appear both interesting and important.[169]

The worlds (and there are many of these; in fact, Professor James lists nine of them) whose objects are of little interest or value or importance to the individual are treated negatively, in short, they are branded as unreal.

In the relational sense then, the way in which we contrast the real with the unreal, "and in which one thing is said to have more reality than another, and to be more believed,

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[168] Ibid., p. 294. [169] Ibid., p. 295.

reality means simply relation to our emotional and active life."[170] Thus, for the practical man, whatever excites and stimulates his interests is real. It is this aspect of appeal to our emotions which constitutes for the individual which things shall be real in his existential universe. He must choose and thereby construct his world.

James quotes a text from Hume's Inquiry Concerning Human Understanding, which I wish to reproduce here, because it is so illuminating on this particular function of our emotions, with respect to existential judgments. The text says,

> I say, then, that belief is nothing but a more vivid, forcible, firm, steady conception of an object than the imagination alone is ever able to attain . . . It consists not in the peculiar nature of the ideas, but in the manner of their conception and in their feeling to the mind.[171]

Thus, for both Hume and William James, the source of all reality, whether from the absolute or practical point of view, is this subjective norm within ourselves, a feeling or emotional reaction. James says that if we consider ourselves as simply logical thinkers, possessing no emotional reactive ability, then reality is conferred on whatever objects we may

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[170] Ibid. [171] Cited in James, Ibid.

be thinking of, for they are really phenomena in the Kantian sense of the term -- objects of our passing thought. But, as thinkers possessing an emotional-reactive ability, "we give what seems to us a still higher degree of reality to whatever things we select and emphasize and turn to with a will."[172] These then are our living realities, as well as all the other things which are connected with them. In a sense, we can say that each man makes his own chain of being as he passes through this vast universe of unconstituted realities. Emotions have then not only a cognitive function, but more importantly, an existential one as well.

172Ibid., p. 297.

CHAPTER V

THE CEREBRAL PHENOMENON OF PSYCHOGENESIS

The main pre-occupation of this chapter will be to establish the manner in which our abstract knowledge is derived. This abstract knowledge consists of the theoretical sciences, philosophy (metaphysics) and moral philosophy. The discussion is a general one so that we reserve to a later chapter the specific treatment of ethical or value judgments that result from personal choice.

The reader is asked to keep in mind the duality that exists between the mind and the body, specifically the brain, the latter being the point of contact between the two entities. Nor should the role of the subtle emotions discussed in the last chapter be forgotten. As feeling states which are cognitional, they play a great role in psychogenesis.

We may begin with the words of William James, who says that it is necessary to determine

> . . . just how far the connection of things in the outward environment can account for our tendency to think out and react upon certain things in certain ways and in no other, though personally we have had of the things in question, no experience, or almost no experience at all.[173]

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[173] Ibid., p. 617.

Thus there exists within the mind connections or associations between things for which it would appear that the outward environment can in no way account, precisely because these connections have not been derived from any experience. For example, some of our propositions possess a quality of necessity. We maintain that the predicate term 'equal' must of necessity be attached to the subject term 'the opposite sides of a parallelogram' if the terms are thought of at all. But there is no such necessity obtaining between the predicate 'raining' and the subject term 'tomorrow'. Quite obviously, in the latter proposition, if the coupling between subject and predicate terms is to take place and all, we must wait upon experience. But in the case of propositions of the necessary sort, the coupling of 's' and 'p' must be attributed to the inward organic structure of the human mind. The holders of the 'a priori' theory of knowledge maintain this structure to be of transcendental origin. In any event, it cannot be explained by experience.

The evolutionary empiricists insist that the structure is only a matter of experience, not only individual but of that of our ancestors as far back as the human line goes. Even our

emotional and instinctive tendencies are irresistable impulses to couple certain movements with the perception or thought (ideas) of certain things. These too then, are innate aspects of our mental structure and their origin is said also to be either transcendental or evolutionary.

Professor James both agrees and disagrees with the two schools. Thus, he wishes to establish as clearly as possible three points:

1. That the experience neither of the race nor of the individual can account for our necessary 'a priori' mental judgments.
2. That there is no possible palpable evidence for the assumption that instinctive reactions are the result of ancestral education in the midst of the same environment and then transmitted to us at birth.
3. The features of our organic mental structure are not the results of our conscious intercourse with the external environment, but rather are congenital variations, accidental in the first instance, and in the Darwinian sense, they belong to a cycle of

> causation, inaccessible of explanation at the level of present research. These congenital variations are transmitted as fixed features of the race. William James says that he shares and will defend the position that the 'a priori' school takes with respect to the facts, although he prefers a naturalistic (in his view, a physiological) explanation as the cause of these facts.

At the outset it must be allowed that such elementary qualities of cold, heat, pleasure, pain, red, blue, sound, silence, etc., are innate, being 'a priori' properties of our subjective nature. Let it be understood, that their origin is totally within the cognitive being despite the fact that these qualities require activitation or stimulation by external experience in order that they become a subject of consciousness. Were there never any contact with the extra-mental world these qualities would, in James' word "slumber to all eternity."[174]

This eternal slumber would result in either of two hypotheses that could be made concerning the relation of the

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[174] Ibid., p. 618.

feelings (the latter being the means of contact) to the realities, if a feeling does not mirror the reality, which makes it vital and to which it is said to correspond, then it does not duplicate any reality outside the mind, and is a pure mental product. But even if it does mirror reality exactly, still it is not that reality itself, but only a duplication of it, the duplicate being the result of a mental reaction. What this means is that there is a harmony between the mind and the nature of the truth outside of it, which results from the fact that the qualities of both, that which is known by the mind and the reality outside of the mind, match. The harmony and match imply a relatedness but no identity. This is why, as we shall see later, truth must be sought in a very round-about way.

All schools, according to James, agree upon the originality of the 'elements' of conceptual knowledge. The disagreement is exclusively relative to their forms of combination. The empiricists maintain that the internal (mental) combinations must correspond to the order of combination awakened by the impressions of the external world. The apriorists insist that 'some' modes of combination flow from

the natures of the elements themselves, and no amount of experience can modify this. By way of resolution of this controversy, three points must be clarified. The first is

A). The Meaning of Experience

The most controverted point according to James is organic mental structure. Does the mind, in fact, possess such structure, and what is its function? In attempting to resolve this problem, it is necessary that a concise, but clear and unequivocal meaning, be given to the word experience. Experience means the experience of something foreign which is supposed to impress us, either spontaneously or as a result of our own exertions and acts. Impressions come in a time-space arrangement, that is, in orders of sequence and co-existence which the mind spontaneously copies.

Thus, to uniform outer co-existences and sequences correspond constant conjunctions of ideas; to fortuitous co-existences and sequences correspond casual conjunctions of ideas. Thus any knower is certain that fire will burn and water will wet him. But he is not at all certain that a strange dog will bark at him or let him go by in peace.

And so it is that in every hour experience molds us and makes our minds a mirror of the time-space connections between things in the extramental world. Habit so establishes the copy of the time-space connections that it becomes almost impossible to imagine that this outward order could differ in any way. It is on this ingrained habitual order that we move in our planning from the present to what the future will be. These habits of transition from thought to thought are derived from experience and they continue to grow under experience. Consequently, James tells us "The order of experience in the matter of the time and space conjunction of things is thus an indisputably 'vera cause' of our form of thought."[175]

But the problem that now arises is this: are all the connections among the ideas within the mind simply the result of so many combinations of sense data, so that it (sense) alone is the sole fashioner of the mind. James notes that the empirical school in psychology has long held to this position. But he says that a closer examination of the facts will not support their viewpoint. The brilliant and seductive statements

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[175] Ibid., p. 620.

of the empirical position put forth by Herbert Spencer include a good deal of truth. But James maintains that closer scrutiny of the details shows that Spencer's position will not cover all the facts.

B). Two Modes of Origin of Brain Structure

By way of dealing with this problem concerning the source of the connections among ideas within the mind, it is necessary to clarify and amplify the notion of experience. A matter of confusion is inevitable since experience-philosophy has been from time immemorial the opponent of theological modes of thought. Thus the word experience has a halo of anti-supernaturalism surrounding it. But James objects

> . . . that if anyone express dissatisfaction with any function claimed for it (experience) he is liable to be treated as if he could only be animated by loyalty to the catechism.[176]

James argues that this is too exclusive a view of experience, since experience does not necessarily mean every natural, as opposed to every supernatural cause. It means simply a particular sort of natural agency with which other more recondite natural agencies may just as well exist. This is but to say

that nature has many methods of producing the same effects.

> She may make a born draftsman or singer by tipping in a certain direction at an opportune moment the molecules of some human ovum, or she may bring forth a child ungifted and make him spend laborious but unsuccessful years at school.[177]

James cites example after example to illustrate the point that what extrinsic natural agents can effect can, equally be brought about by internal agents, agents which may be chemical, molecular, but certainly still physical or natural agents. For example, our ears can be made to ring by the sound of a bell which is an extrinsic agent, but the same effect can be induced by a dose of quinine; or again, a man may be filled with terror in certain environments due to extrinsic terror-producing agents, yet the same effect can be produced by a blow on the head which causes chemical changes, resulting in a pathological state of fear. It is pathological because there would be no object present.

The means that we need two words in order to distinguish and clearly designate these two distinct modes of activity upon and within the organism. In the one instance natural agents produce perceptions which know the agents themselves. In the other instance, the natural agents produce perceptions

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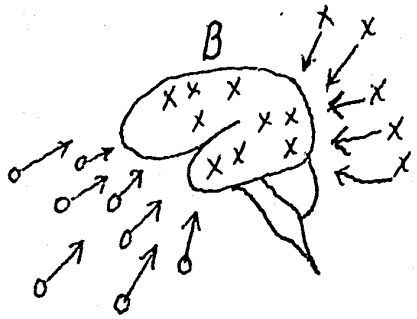
[177] Ibid., p. 635.

which take cognizance of something else. One is reminded here of the scholastic doctrine of the intelligible species whose function it is to signify exclusively and not to be known in itself. James explains his point more fully:

> What is taught to the mind by the 'experience' in the first case is the order of the experience itself, the inner relation 'corresponds' to the outer relation which produced it, by remembering and knowing the latter.[178]

However, in the case of the other kind of natural agency, operating within the brain, what is brought forth to the mind has nothing to do with the agent itself, but rather with some different outer relation altogether. This doctrine which is central to James' epistemological teaching necessitates the usage of a diagram to explain exactly what is being maintained.



[178] Ibid.

B' represents the human brain, existing in the world. The 'o's represent the natural objects, v.g., sunset, flowers, lightening, trees, etc., which impress this brain through the instrumentality of the senses, and in the first and primary sense of the word give it experience, imposing upon it, by means of habit and association, the order that obtains among outer things. The 'x's, both inside and outside of the brain, are other natural objects and physiological processes (whether in the ovum or the blood, etc., but still within the body), that equally modify the brain, but give no cognition of themselves. Thus for example, the chemical 'tinnitus aurium' indicates no property of the quinine, cognitively speaking; yet it does cause the ringing in the ear. The musical endowment which must be conceived as a physiological accident occurring in the ovum gives no knowledge of embryology; the morbid fear of solitude gives no knowledge of brain pathology which is the cause. By way of contrast, a dirty sunset and a rainy morning, which are associated in the mind, correspond perfectly to the sequence of the times of the appearance of such sunsets and the inevitable rainfalls that necessarily occur the following day in the outer world.

In order to make clear this doctrine concerning the influence of the 'x's, James now introduces the two modes of zoological evolution. These are the modes by wh ch the animal race has become a better match for the environment in which it lives. The first is the way of 'adaptation' in which the environment modifies the animal by hardening and habituating the animal to certain causal sequences which become hereditary. The second manner of evolution is called 'accidental variation'. The influence of Charles Darwin is quite obvious. The variations mean that certain animals are born with peculiarities that aid them and their progeny to survive. These variations too become hereditary. The first mode of evolution is termed direct, the second, indirect. Both are called equilibrations and are natural, physical processes. However, they belong in entirely different physical orders.

The direct influences are observable things. They are the animal's experiences in the widest sense of the term. When they affect the brain they are conscious experiences, and thus become objects to be known as well as the causes of effects. The effects consist in the tendency of the experience itself to be recalled (memory); or its elements united in

imagination, just as they were conjoined in the experience. In the diagram, the 'o's represent just such experiences.

But the causes of the accidental variations, are molecular and inside the brain. The 'x's in the diagram stand for these indirect causes of mental modification, causes of which we are not immediately conscious and which are not the direct objects of the effects they produce. It should be recalled that as we have seen in the previous chapter, we 'feel' the effects of these modifications - this is help that comes from down below - and in this way a cognitive act takes place. Since feeling is the way by which knowledge occurs, the subtle emotions are needed if we are to know abstract conceptions. Some of these modifications are molecular accidents before birth, occurring in the ovum as it were. Others are "collateral and remote combinations, unintended combinations one might say, of more direct effects wrought in unstable and intricate brain-tissue."[179] The susceptibility to music that occurs in certain individuals is, beyond doubt, the result of such unintended combinations

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[179] Ibid., p. 627.

in the unstable, complex brain-tissue. This is so because, as James points out, susceptibility to music has no biological utility, and what is more, it surely corresponds to no object that can be discovered in the natural environment! These cognitional states are brain-born, that is, their causes are physiological modifications of tissue within the brain, and since changes in thought also produce changes in the organism (the sounding board) it is through these feelings that their presence is made known. Hence, Professor James can speak of our aesthetic, intellectual and moral feelings. Thus we can see the over-all cognitive function which he ascribes to feeling states. Further, it should now be clear why he emphasizes that bodily changes occur even in the instance of the subtler emotions - he said that they needed help from below. Our moral choices must be 'felt', if they are to be acted upon. He says concerning it,

> It is a pure incident of having a hearing organ an incident depending on such instable and inessential conditions that one brother may have it and another not.[180]

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[180] Ibid.

This is certainly a telling argument for the existence of these mysterious, indirect causes of mental modifications which give rise to acts, or better to phenomena for which no correspondence can be found in outer experience. It must be remembered at this point that William James is fundamentally an empiricist who is trying to find physiological causal factors for all that can be discovered within the human mind. Professor James argues that this is the only possible explanation with respect to the susceptibility of sea-sickness. In short, it too must be brain-born, for "so far from being engendered by long-experience of its object (if a heaving deck can be called its object) is erelong annulled thereby."[181] In other words, repeated experience with the sea eliminates the inclination to sea-sickness.

For the purposes of this thesis the next points concerning accidental variations are extremely important. James holds that even our higher aesthetic, moral and intellectual life is made up of affections, that is, feelings of this collateral and incidental sort. We must pause momentarily to tie

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[181] Ibid.

in the role of the emotions in the genesis of these higher, non-sensorial modes of cognitive life. While our emphasis is pointedly on the moral, we cannot neglect the aesthetic or intellectual modes of cognition. These affections then, we are told by Professor James, have entered the mind by the 'back stairs' as it were. But to stress their interiority within the brain and distinction from empirical-originating fact, he says "they have not entered the mind at all but got surreptitiously born in the house."[182] This means that they are 'brain-born' as a consequence of molecular modifications, or unintended combinations of direct effects in the unstable and intricate brain-tissue. James insists that no one can successfully treat the factors of mental evolution, that is, 'psychogenesis', without taking into account these two ways in which the mind is, to use his phrase, 'assailed' from within and without. Experience proper comes in the front door, that is, through the media of the end-organs of senses. The agents affecting the brain in this manner are the immediate objects made present to the mind. The other agents, molecular

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[182] Ibid.

or modified brain-tissue, are not the mind's objects. Thus it would be absurd, according to James, to insist that two men who possess an equal effective skill in drawing, one being an untaught natural genius, the other an obstinate plodder, owe these skills to their 'experience'. Nay, their several skills are the consequence of "disparate natural cycles of causation." The plodder through hard toil has won his skill (front door); the untaught genius attributes his easy skill to the accidental variations of his brain-tissue (the back stairs way), that is the back-door way.

Professor James complained that virtually what all writers in the field of psychology do is to ignore the distinct differences between the front-door (senses) and back-door (brain-born) ways of producing mental change. He pointed out that one of the most striking instances of these back-door feelings is man's susceptibility to the delights of drunkenness. Surprisingly, he maintained that it was one of the deepest functions of human nature, since half of the poetry and the tragedy of life would disappear if alcohol did not exist. In a rebuking manner which is intended for evolutionary empiricists, James asks "what ancestral 'outer rela-

tion' is responsible for this peculiar reaction of ours."[183] The only extrinsic cause for this susceptibility to the alcohol could be the alcohol itself, but the striking fact is that it's attractiveness is rapidly disappearing from our mental structure, in view of the fact that only those men and their families survive in whom the attraction for alcohol is not strong. No! the love of drunkenness is a purely accidental susceptibility of the brain, a brain evolved for entirely different purposes (functional), and whose causes therefore, are to be found in the molecular realm rather than in any extrinsic cause such as an 'outer relation'.

In order to avoid all confusion, then, James insists that the word experience should be retained for only those processes whose influence upon the mind is by the front-door way of simple habits and associations. The full scope and nature of the back-door-effects will become clear as we proceed in this exposition of James' doctrine.

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[183] Ibid., p. 628.

C). The Genesis of Elementary Mental Categories

We must now give a brief account of the actual mental structure (content) that is to be found within the brain.

Professor James complained that most psychologists of his day tended to ascribe a natural origin to all forms of thought, that is, mental affection or feeling. He says that the followers of Herbert Spencer are the classic example of this view. They maintained that the experience of blue objects, for instance, impresses upon the mind the color blue and that from hard objects the mind derived the feeling of hardness; just as the presence of both large and small objects, experienced from the outside world, gave rise to the notion of size, moving objects, that of motion, and repeated successions caused the notion of time. But this, according to Professor James, is so easy and natural an explanation of the outer world, slowly but surely building up its mental duplicate within the brain, that it seems almost impossible to criticize it. He simply cannot bring himself to accept any theory of knowledge which would hold that the source of our intellectual and moral and aesthetic knowledges is derived by some kind of

duplication of outer-impressions. The mind simply does not have this kind of correspondence with outer reality, since these knowledges have no correlative in the outer world. They must be brain-born. James would however agree, that the appearance of a new animal does impress its image permanently on the mind, but he argued that this impression is possible only because the mind is already in possession of categories for knowing all of the attributes of the animal, and moreover possesses a memory by which it retains the order of their conjunction. He says on this point:

> I now have performed categories for all possible objects. The objects need only awaken these from their slumber.[184]

There would appear to be a similarity here between these preformed categories and Immanuel Kant's innate categorical forms of understanding. But there is a significant difference between the two concepts. In the opinion of James, the preformed mental categories have evolved along with the animal. For Kant, the mind was endowed with them from all eternity. Thus the evolution of the categories accounts for my being able to

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[184] Ibid., p. 630.

impose them on any new impression. But it is a very different affair to account for the origin of the categories themselves. In short, are they derived from outer things, as the Spencerites would maintain?

James replies in a categorical negative way that

> . . . the mere existence of things to be known is even now not, as a rule, sufficient to bring about a knowledge of them.[185]

James conceded that the origin of our various elementary feelings is an obscure history, even assuming the existence of neural tissue for the outer world to begin to work on. But, and this is very important, there can be no doubt that our abstract and general discoveries are the result of fortuitous or lucky fancies (brain-born), and only afterward do we find that they correspond to some outer reality. This means that their immediate production resulted from"previous thoughts with which, and with brain-processes of which, (outer) reality had nothing to do."[186]

James then asks why should the case be any different with the original elements of consciousness, such as sensation,

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[185] Ibid. [186] Ibid., p. 631.

time, space, resemblance, difference and other relations? Why could not these equally have come into existence by the back-door method, as a consequence of physical processes resultant from morphological accident (brain structure), or from an inwardly produced summation of effects, rather than be dependant upon the 'sensible presence' of objects? He appears to be going very far toward inverting the knower in upon himself and his inward physiological states. It is this inwardness which necessitates 'pragmatism's' conception of truth. Ultimately, all of this inwardness is a consequence of the chasm that exists between mind and body. Professor James asks:

> Why may there not, in short, be pure idiosyncracies, spontaneous variations, fitted by good luck (those of them which have survived) to take cognizance of objects (that is, to steer us in our active dealings with them), without being in any intelligible sense immediate derivatives from them.[187]

In the opinion of the writer, no better statement of the independence of mind from outer objects in its cognitive activity could possibly be found anywhere. The text, however,

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[187] Ibid.

indicates poignantly how dependent the mind is upon its individual physiological constitution, for such chance guidance toward objects in order that it might deal tith them. To repeat, James is emphasizing the fact that these cognitive processes are the result of inward modifications of brain tissue. He is rejecting out of hand a theory of knowledge such as he ascribes to the associationist, whereby the interior product is held to be an exact duplicate of the impressions received from without. James maintains that the correspondence between what the mind knows and the extramental reality is as he puts it, a matter of good luck, and must needs be verified.

By way of summary then, it is because of molecular changes in the brain that thought occurs. Consequently, all of the elements within the brain, that is, elementary feelings (sensations), feelings of cause and effect, denial and doubt, etc., are but subjective duplicates of outer objects. By no stretch of the imagination could they ever be said to be the outer objects. James explains this by saying that even the famous secondary qualities are not supposed by any educated person to resemble the outer objects. These quali-

ties are but the result of the reacting brain to stimuli coming from without. This is all the more true concerning pleasure and pain, the feeling of effort, desire, aversion, and such feelings mentioned above as cause and effect, denial and doubt, etc. Within the mind, in short, there exists a vast wealth of inner forms whose origins are most certainly morphological, and shrouded in mystery. They are not impressed from without in any meaningful sense of the verb 'to impress'. They cannot be impressed for there is no direct means of access from sensation to intellection.

So much then for the theory of 'psychogenesis' in general. Let us now turn to its specific application with respect to the genesis of what James calls the abstract branches of knowledge. More briefly, knowledge which does not result from the outer reality; the brain-born type.

CHAPTER VI

THE PSYCHOGENESIS OF THE ABSTRACT BRANCHES OF KNOWLEDGE: THE ORIGIN OF MORAL PRINCIPLES AND THE ROLE OF THE EMOTIONS

With this chapter we have reached the point at which the central theme of this thesis is to be discussed, namely that brain-physiology, especially as it appertains to the production of emotional reverberations (feeling states) is intimately involved in the moral scheme of things according to the view of William James.

Before delving into the proper matter of this chapter, it may be helpful to briefly review what we have thus far seen. There is, first of all, the inevitable chasm that exists between the mind and the body. This seeming unmediated gap is somewhat mediated or bridged by the fact that a received stimulus, which acts upon the end-organs of the body, causes by means of diffusive nerve currents, changes in the brain tissue, which are the occasion or the cause of the appearance of an idea in the mind. James maintains that this idea is a kind of duplicate: but his frequent insistance that there exists no identity, but rather only a harmony between the stimulus and the idea, forces one to say that the gap is both mediated and not mediated.

There is a second type of knowledge which James denotes as the brain-born or back-door type of knowledge. It is so called because there exists no correspondence in any manner between this type of knowledge and what is derived by way of direct experience. It is for this reason that James says of it that it enters by way of the back stairs, or better, that it does not enter at all, but is born within the house (the brain). In this type of knowledge the mind perceives relations among ideas that arise as a consequence of impressions, but these relations are the result of the mind's working on the data of sensation, that is, the impressions.

We shall in this chapter then, look at three types of this knowledge, namely, that which results in the natural sciences, that resulting in metaphysical axioms and lastly, but most importantly for our purposes, aesthetic and moral axioms or principles. The study of the way in which theoretical and metaphysical knowledge originates will aid in the achievement of a fuller and more comprehensive understanding of the doctrine of pragmatism which will be undertaken in the next two chapters.

One final comment, the reader is asked to keep in

mind what we have already seen in Chapter IV, namely, that the subtler emotions consist of our intellectual, moral and aesthetic feelings with which bodily reverberations may be manifest or muted, and from which feelings these abstract types of knowledge take their origin. It must never be forgotten as well, that feeling is the means by which cognition takes place.

Let us now turn to

A. The Genesis of the Natural Sciences.

Professor James devotes a great deal of space to a discussion of the genesis and nature of the pure sciences. These pure sciences consist of Classification, Logic and Mathematics. These are completely 'a priori', that is, innate, which take their origin from inward functions of the mind itself. They might be compared to Kant's pure forms of understanding, from which necessary truths result and to which experience must necessarily conform. In a word, they are laws of thought. These need not concern us, for they have little relevance to the order of action, with which we are primarily concerned.

With respect to the psychogenesis of the natural sciences, let it be at once noted, that our scientific ways of thinking concerning extramental reality are highly abstract. The scientific view of outer reality sees it as essentially composed of atoms and molecules moving to and from each other according to strange and mysterious laws. Now since the order of scientific thinking differs from the way in which reality exists as well as from the way in which it is received by our senses, it must be said that scientific thought operates exclusively by means of selection and emphasis of incoming impressions.

Concerning this selective process as it operates in the order of the natural sciences, Professor James says:

> We break the solid pleniture of fact into separate essences, conceive generally what only exists particularly, and by our classification leave nothing in its natural neighborhood, but separate the contiguous, and join what the poles divorce.[188]

For Professor James, reality exists as a plenum, meaning that every part of it is contemporaneous; each is as real as any other, and each is essential to the vast whole. There is no

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[188] Ibid., Vol. II, p. 634.

past, there is no future. But we have no cognitive faculty for experiencing nor thinking such a plenum. That which we experience are but fragmentary impressions of this totality. These experienced impressions, which constantly interrupt each other, are what we receive of the outer reality. But what we think, on the other hand, are abstract systems of hypothetical data and laws.

Parenthetically, it is interesting to note that on this point of the kind of data which is the matter for our mind to work on, James cites John Stuart Mill, who in his Logic states that "the order of nature, as perceived at a first glance, presents at every instant a chaos followed by another chaos. We must decompose each chaos into single facts."[189]

Concerning this thinking activity which is exercized on these received impressions, Professor James says that the goal of all conceptual activity is for ends which do not exist at all in the outer world, but are rather determined by our emotional and practical needs. He says:

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[189]Cited by James in Principles, Vol. II, p. 634.

> . . .(the mind) is a transformer of the world of our impressions into a totally different world, the world of our conception; and the transformation is effected in the interests of our volitional nature, and for no other purpose whatsoever.[190]

Thus, these conceptual systems produced by the mind are expressed in relations which were never given to sensation at all. They are simply conceived for subjective ends. These ends are a) to conceive simply and b) to foresee; and, to use the felicitous phrase of William James, 'miracle of miracles', the given order of impressions lends itself to this type of remodelling. As James says, "it (reality) shows itself plastic to many of our scientific, to many of our aesthetic, to many of our practical purposes and ends."[191]

It is this plasticity upon which we impose all our conceptual thinking, and the result is the various branches of abstract knowledge that we call science, ethics, metaphysics and aesthetics.

The abstract scientific systems, which are comparable to a scientific algebra, though they little resemble the given

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[190] William James, "Reflex Action and Theism", Essay from The Will to Believe, p. 114.

[191] Ibid., p. 119.

reality, are nevertheless, applicable to it. The result is that the hypotheses of science do bring about practical results so that the chaos which is perceived through the senses is translatable into real and serviceable values. In this way, such abstract systems become a practical guide to our expectations as well as a theoretical delight.

These systems, it must be stressed, do not result from 'experience', in the accepted sense of that term, that is, from the impressions made through the front-door of the mind (sensations). This implies, ultimately, that every scientific conception is originally but a '<u>spontaneous variation</u>' in someone's brain. Professor James tells us,

> Their genesis is strictly akin to that of the flashes of poetry and sallies of wit to which the instable brain-paths equally give rise.[192]

This matter of spontaneous variation in brain-paths is made strikingly clear in this text, in which Professor James states that

> . . . new conceptions, emotions, active tendencies which evolve are originally produced in the shape of random images, fancies, accidental out-births

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[192] <u>Ibid.</u>, p. 636.

> of spontaneous variation in the functional activity of the excessively instable human brain.[193]

The outer environment will either affirm or refute, adopt or reject, preserve or destroy which of these randomly produced fancies and/or images are to remain. This environmental selectivity of the morphological and social variations which result from molecular accidents is but the application of Darwin's hypothesis to brain physiology and psychogenesis.

In fact, James himself testifies to this debt when he writes,

> I have tried to show that both mental and social evolution are to be conceived after the Darwinian fashion, and that the function of the environment properly so-called is much more that of selecting forms, produced by invisible forces, than producing of such forms.[194]

The invisible forces of this passage are the unstable brain paths. The environment fulfills the role of accepting or rejecting the conceptions (or forms) causally activated in the mind by those forces. A further clarification of this phenomenon of internal spontaneous variation is given by Professor James when he says:

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[193] William James, "Great Men and Their Environment", Essay from The Will to Believe, p. 247.

[194] William James, Principles, p. 636.

> The spontaneous upsettings of brains this way and that at particular moments into particular ideas and combinations are matched by their equally spontaneous permanent tiltings or saggings toward determinate directions.[195]

These more permanent variations result in the generation of definite character-types. We mention these here because they (the more permanent variations) serve to underscore the unique individuality of emotional experience and expression as well as the uniqueness of ethical impulses despite these more stable variations resulting in character types. This earthly planet, perhaps even the unseen universe, is a veritable pluralism of unique organisms. Thus, in one direction, we have individuals who are inclined to be of a humorous turn of mind; others are inclined to be of a sentimental nature; another mind will be more attentive and alive to one class of experiences rather than to others, one more inclined to select certain incoming impressions and lastly, one more easily persuaded by certain reasons than others. These characteristics are but the results of the playing of the invisible forces of growth within the nervous system of the

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[195] William James, The Will to Believe, p. 250.

individual which act upon the brain and make it peculiarly apt to function in this way.

We have seen then that the conceiving of a physical law is a spontaneous variation flashing out of one brain and not another, because of instability of the first brain. The instability of that particular brain is of just the right kind so that it overflows, as it were, into just this kind of particular physical law.

This means that even the most stable and permanent laws governing outer relations which science accepts are not matters of experience at all. For example, the elementary laws of mechanics, physics and chemistry, as well as the principles of uniformity in nature, have to be sought under and in spite of the most rebellious appearances. Our outer impressions (experience) do not lead us to a belief in a uniformity within nature, but only to the belief that law and lawlessness rule the world in incongruous alternation. Given this situation, the truth of this law is more akin to an article of religious faith, rather than a demonstration of fact.

It is true that scientific truths, if such a word can

be used, must harmonize with those proximate laws of nature and accustomed ways of acting on concrete things, such as, that heat melts ice, fish die out of water and similar cohesions of nature which experience does produce in our minds. But scientific statements do not take their origin from this same source. When experience has done its task, namely, the provisionsof impressions, the combining of these elements within the brain sets new internal forces free (secondary internal processes) which produce new effects. Professor James describes this generative process thus:

> The random irradiations and resettlements of our ideas, which supervene upon experience, and constitute our free mental play, are due entirely to these secondary internal processes which vary enormously from brain to brain, even though the brains be exposed to exactly the same 'outer relations'.[196]

Is there any wonder that given this immense variety of minds there should be a corresponding immense variety of worlds. We shall later see the great effort Professor James must expend to overcome the implied solipsism. The above-cited text is the best and clearest statement by William James of how our abstract ideas originate. They are brain-born, that

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[196]William James, Principles, Vol. II, p. 638.

is, they result from the workings of internal physiological forces which in turn operate upon received experience. There could be no clearer expression of a physiological psychology.

The differences of internal brain reactions ultimately accounts as well for the different levels of intellectual capacity among men. One might say that it is the difference in fermentation within the brain that distinguishes the great from the ordinary or common man. Using the analogy of fermenting dough Professor James says:

> The higher thought processes owe their being to causes which correspond far more to the sourings and fermentations of dough . . . than to the manipulations by which these physical aggregates came to be compounded.[197]

He wishes, once again, by this analogy to emphasize that abstract thought - the higher thought processes, are born within the brain. But it should be noticed that it is fundamentally 'fermentation' which is their source.

Before turning to the other conceptual systems of knowledge, it may be well to consider just why men so persistently crave to alter the given order of things, for as Professor James so well remarks,

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[197] Ibid.

> The world of aesthetics and ethics is an ideal world, a utopia, a world which outer relations persist in contradicting, but which we as stubbornly persist in striving to make actual.[196]

The only answer that seems likely to explain this stubborn persistence is the existence in man of an aesthetic sense. The time-space relationship in which impression are given to sensation prove to be of little interest. Other relations prove to be far more interesting and charming than these inelegant time-space conjunctions. This passional state of interest dominates all of our mental activity for by it we select those elements of the incoming impressions which for us shall constitute the 'essence' of the object. Furthermore, this aesthetic emotion seems to underlie all of the system-constructing activity of the mind and would thus seem to be the paramount feeling-state.

These inwardly constructed relations, to be sure, are secondary, brain-born, 'spontaneous variations' (within the brain tissue) of our sensibility. But by them certain elements of experience, certain arrangements in time and space, acquire

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[196] Ibid., p. 639.

an agreeableness that otherwise would not have been felt. In a word, they have acquired a real inward fitness - an ideal fitness.

Professor James does allow that habitual arrangements of impressions can as well become agreeable. But he says this type of 'felt' agreeableness is a "mere apo and counterfeit of real inward fitness; and one sign of intelligence is never to mistake the one for the other."[199]

As objects of our thought, these ideal and inward relations can in no intelligible sense whatever be said to be reproductions of the order of outer experience. Yet, strangely enough, those inward relations which are called 'scientific' do not conflict with the outer order, but rather, some of them at least, appear to be congruent with the time-space relation resulting from experience. This is verified through experimentation where the inward relation is found through its workability to be applicable to the world of experience. But we leave this verifiability factor for fuller discussion in the remaining chapters where Pragmatism will be

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[199] Ibid.

discussed. A brief word must now be said about

B. The Metaphysical Axioms.

Beside these ideal scientific relations, there is another class of ideal relations which as yet are not verified. These are the propositions which consist in the following kinds of metaphysical and aesthetic axioms, namely, "The Principle of things is one"; "the quantity of existence is unchanged"; "Nature is simple and invariable"; "Nature acts by the shortest ways"; "Ex nihilo, nihil fit;" "Nothing can be evolved which was not involved"; "Whatever is in the effect must be in the cause"; "A thing can only work where it is;" "A thing can only affect another of its own kind"; "Cessante causa, cessat et effectus"; "Nature makes no leaps"; "Things belong to discrete and permanent kinds"; "Nothing is or happens without a reason"; "The world is throughout rationally intelligible"; etc., etc., etc.

Such principles, which are the standard fare of metaphysics are, according to William James, capable of multiplication to satiety and they are properly and truly denominated postulates of rationality and not propositions of fact. He

allows that if nature did conform to these postulates it would be most intelligible and it is for this reason we seek to conceptualize phenomena as if they did so act (apparently in response to the craving for altering the given order of things). Thus, for example,

> . . . instead of the 'quantity of existence' so vaguely postulated as unchanged, Nature allows us to suppose that curious sum of distances and velocities which for want of a better term we call 'energy'.[200]

For the effect being 'contained in the cause', we can substitute 'the effect is the cause', once we have conceptualized the cause and effect as but the same molecules, only different by being in two successive positions. This is the famous, but erroneous, 19th century conception of causality.

Parenthetically, it might be noted that Professor James is here translating these two metaphysical principles from their rational intelligibility into a mechanical one, that is, in terms of a mechanico-physical philosophy.

But for the present, at any rate, James is forced to admit that despite these initial successes achieved by science,

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[200] Ibid., p. 670.

there exists a vast field of irrationalized fact - whose items are simply clumped together - to cope with which we have no ideal means. This is not to imply that these metaphysical postulates of rationality are totally barren - (Professor James sardonically remarks that "though barren enough they were when used as the Scholastics used them, as immediate propositions of fact").[201]

As ideals these metaphysical postulates have a fertility, and they serve to keep us uneasy about the given order of outer reality, so that there is a constant striving to remake the world of sense in the light of these postulates. But there are no end of problems which these 'postulates of reason' occasion. As an example, take the principle that 'nothing can happen without a cause'. William James says, "we have no definite idea of what we mean by cause or of what causality consists in."[202] Yet, what the principle expresses is a demand, a hope, if you will, for some deeper sort of inward connection between phenomena, rather than the habitual time-sequence which appears to us so superficial and extrinsic a relation. But at

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[201] Ibid., p. 670. [202] Ibid., p. 671.

the moment, according to James, "the word 'cause' is, in short, an altar to an unknown god; an empty pedestal still marking the place of a hoped-for statue."[203] If any true inward belonging-together of sequential terms could be discovered, it would be readily acknowledged as that which the word 'cause' meant. And so the quest goes on.

The molecular system of science provides a kind of inward belonging in its notion of the identity of matter with change of arrangement of the molecules. But this is only one kind of inwardness. Further investigation may, Professor James admits, even demonstrate an inward belonging between the molecules and the secondary qualities (sensations) which they produce within our minds. To be sure, this would be some achievement since the physiology of nerve-currents views them only as the consequence of/internal/cellular modifications.

But success of the application of any one of our ideal, brain-born systems justifies the hope that other systems will be found. This is why metaphysics should not give up hope of its own eventual applicability to outer reality. Unlike physics,

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[203] Ibid.

which has achieved great success, the task of metaphysics has proved to be the longer one.

But one thing is certain, and here James' own words are important:

> Nature may be remodelled, nay, certainly will be remodelled, far beyond the point at present reached. How far, only the future history of Science and Philosophy can answer.[204]

C. Aesthetic and Moral Principles

There is a final interior mental structure which expresses itself in aesthetic and moral principles. First, let us briefly look at the aesthetic principles. They are expressed in such axioms as that a note sounds good with its third and fifth, that is, third and fifth notes which constitute the triadic chord of harmonic theory. The point is that there is nothing about the three sounds, intrinsically considered, which designates the principal tone as more melodious, and hence, more pleasing; rather it is but an intrinsic feeling of our sensibility which so judges it. Because we are so made that when certain impressions come to the mind, one will

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[204] Ibid.

always seem to call for or repel the others as its associates. Habit, to some extent, can explain these aesthetic connections. Thus in the repeated experience of cohesion of terms some will grow pleasing, or at least their disjunction will be unpleasant. But not all aesthetic associations can be explained by habitual conjunction of terms, because it is notorious fact that natural experiences seldom come up to our aesthetic expectations, Professor James notes parenthetically that many of the so-called metaphysical principles are really only expressions of aesthetic feeling, that is, they express our emotional preferences as to how reality should be structured. Thus, we feel that nature should be simple and invariable; that it should make no leaps; that it be rationally intelligible; that the many flow from one principle. Such metaphysical principles express how pleasant our minds would feel if it had a nature of this sort to contend with. The ubiquitous emotions are thus at the root of our metaphysical postulates and have small relevance to reality. Turning now to the 'moral' principles which our mental structure engenders, they are still less explicable as inner cohesions reflecting repeated habitual experiences. For, Professor James insists that

> Rightness is not mere usualness, wrongness not mere oddity, however numerous the facts which might be invoked to prove such identity. Nor are the moral judgments those most invariably and emphatically impressed on us by public opinion.[205]

In fact, James maintains that the judgments which are most characteristically and peculiarly moral, are those made in cases of which we have had no experience - unprecedented cases; or they are made at times of lonely emergencies where "no popular rhetorical maxims can avail, and the hidden oracle alone can speak."[206] Momentarily we shall see just what constitutes this oracular imperative. Here it need only be noted that James rejects both experience and custom, that is, public opinion, as sources of moral directives binding upon individuals, no matter how authoritarian their credentials be.

The more plausible explanation concerning the origin of our value judgments is to be found in the teachings of physiological psychology. On this point Professor James says,

> The more minutely psychology studies human nature the more clearly it finds there traces of secondary affections, relating the impressions of the environment with one another and with our impulses in quite different ways from these mere associations of

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[205] Ibid., p. 672. [206] Ibid.

> co-existence and succession which are practically all that pure empiricism can admit.[207]

The 'impulses' of this text should be understood as emotive feelings. What is to be especially noted in this very important text is the dynamic role that is assigned to the 'emotional self' (the secondary affections), which rearranges the incoming sensations in accordance with our impulses in a manner far different from the way in which they were received.

Enumerating the following feeling-states, the love of drunkenness, the shyness of the bashful, the myeterious fright of high places, the inclination toward sea-sickness, the attractiveness to musical sounds, the tendency to faint at the sight of blood, the emotion of the comical (?), the passion for poetry, for mathematics, for metaphysics, James says that they cannot be explained fully, either by the association of ideas or by any utility (the latter, in fact, being conspicuously absent from most of these emotions). Their origin, therefore, must be ascribed to 'incidental complications' of a cerebral structure which was originally a 'tabula rasa',

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[207]William James, The Will to Believe, p. 186.

that is, possessing no innate reference to the apprehension of the above-mentioned feelings.

In physiological terms, such feelings (ideas) arise from changes in the neural paths which the current ordinarily follows within the brain. From such neural changes result also the relating of ideas in a multitude of ways.

The vast majority of our moral perceptions are, according to James, of this secondary and brain-born kind. He says,

> They deal with directly felt fitnesses between things, and often fly in the teeth of all the prepossessions of habit and presumptions of utility. [208]

The reader of this text must be reminded that for James, feeling is a cognitive function.

To emphasize the uniqueness of this moral feeling, James says that once you pass beyond the 'Decalogues' which are intended to govern the masses, as well as the coarse and commonplace moral maxims, one gets into moral schemes and positions that various individuals adopt, which at first sight seem utterly fantastic and overstrained. Thus, some persons

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[208] Ibid., p. 187.

manifest an obsession for abstract justice; surely this is as eccentric a variation (due, let it not be forgot, to neural processes gone astray) as the passion for music in other types. Or take the passion with which others are consumed, for whole and complete philosophical systems. Only 'inward sensibility', that is, feeling, can account for these diverse attachments found in different persons.

Moreover, how else can account be given for the feeling of inward worth and dignity of such spiritual attitudes as peace, serenity, simplicity and veracity on the one hand, and on the other the opposite feelings of disgust with the vulgarity of such character-attitudes as captiousness, anxiety, egotistic irritability, etc. The simplistic explanation, is that the nobler things (the former in the above-cited example) are more appetitive in the sense that they cause this <u>feeling</u> of being 'fit'. It is a matter of innate preference of the more ideal for its own sake and, according to Professor James, that is all that can be said about the matter.

To be sure, the consequences of certain acts can teach us what things are wicked, but it can properly be asked what have consequences to do with the determination of the mean and

the vulgar in human affairs. What Professor James is suggesting is that the determination of the mean and vulgar is primarily a matter of feeling. To illustrate his point, he cites the example of a man who kills his wife's lover. To all appearances this is but a deserved act of justice. But then James asks,

> . . .by reason of what subtile repugnancy in things is it that we are so disgusted when we hear that the wife and husband have made it up and are living comfortably together again?[209]

From whence this emotion of disgust? The onlookers should rather be pleased that justice has been done and the lawfully married spouses are once more re-united.

Or let us suppose that we could envision the hypothesis of a world wherein millions of its inhabitants would be kept permanently happy on this one condition, that a certain lost soul on the far off edge of things should lead a life of lonely torture. James comments,

> What except a specifical and independent sort of emotion can it be which would make us immediately feel, even though an impulse arose within us to clutch at this happiness so offered, how hideous a thing would be its enjoyment when deliberately accepted as the fruit of such a bargain?[210]

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[209] Ibid., p. 188. [210] Ibid.

Here again we may ask from which quarter this emotion of hesitancy in such a situation takes its origin. The Jamesian answer is brief and to the point: from purely inward forces at work in each and everyone of us. In a word, "these are the subtile brain-born feelings of discord."[211]

Such inner forces are the sole explanation for men's determinations of what is mean and vulgar in human action. Thus, it should be clear that these brain-born feelings of our moral sensibility go far beyond what can be discovered from any mere laws of association.

It is because of this disassociation with outward experience that it can be truly said that all our higher and far-reaching moral ideals are in essence revolutionary. By this is meant that, far from being effects of past experience, they are rather causes of future experience. Originating in the mind at any possible future moment, they are the causes at that moment of our action upon reality. It is to these inward, brain-born ideals that the environment must be made to conform and, insofar as they do respond, to this extent it can be said

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[211] Ibid.

that the moral universe is being steadily constructed.

We spoke earlier of the most characteristic moral judgment being that which is made in situations where we have no previous experience to call upon as a guide, or at times of lonely emergencies when only the 'hidden oracle' can speak. It should now be obvious that the hidden oracle is the brain with its neural processes. At the time of these unprecedented and lonely emergencies, James says that the hidden oracle

> . . . speaks often in favor of conduct quite unusual, and suicidal as far as gaining popular approbation goes. The forces which conspire to this resultant are subtle harmonies and discords between elementary ideas which form the data of the case.[212]

It is the feeling of the reverberations resulting from these harmonies and discords which give rise to the moral hero who spurns popular approbation and defiantly acts, even though it may be suicidal, according to the promptings of the oracle. James is willing to concede that some of the harmonies which give way to moral judgments may be due to habit, but the majority are the result of a secondary function of the brain

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[212] Ibid., p. 189.

similar to that which takes note of the diverse excellence of elaborate musical compositions. Consequently, our higher moral sensibilities, just as higher musical sensibilities, can in no way be accounted for by the frequencies of the cohesions of our received outer relations.

Further light on this subjective-oriented ethics can be gleaned from the meanings which, according to Professor James, are to be attached to the terms obligation, good and evil.

First of all, such terms have no applicability or relevancy in a universe where no sensory life exists. James asks us to

> Imagine an absolutely material world containing only physical and chemical fact and existing from eternity without a God, without even an interested spectator: would there be any sense in saying of that world that one of its states is better than another.[213]

There is no need for good or evil to exist in such a purely non-sentient universe. One physical fact in such a universe, considered simply as a physical fact, would be no better than another physical fact. This is simply to say that betterness

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[213] Ibid., p. 189.

is not a physical relationship.

It is only with the presence of a conscious-sensibility capable of making demands, that moral relations appear. These demands take their origin from the fact that this sensibility has desires. Now even though these conscious-sensibilities can be considered physical facts as well, when the desire and demanding aspects manifest themselves, they are no longer exclusively purely physical facts, but have become moral agents.

Now if goodness, badness and obligation are to be real and meaningful relational concepts, they must be realized somewhere. Professor James maintains that it is the first business of moral philosophy to make clear that "no merely inorganic 'nature of things' can realize them".[214] This, it should be clear, is a direct rebuke to the so-called 'objective-norms' school of moral theory.

But the problem is just where to realize moral relations and moral law, since they obviously cannot exist in 'vacuo'? Not surprisingly James holds that

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[214] Ibid., p. 190.

> . . .their only habitat can be in a mind which feels them; and no world composed of merely physical facts can possibly be a world to which ethical propositions apply.[215]

We certainly risk being repetitious with the frequent stress that we give to the statements of Professor James wherein he emphasizes feeling, but the only excuse for risking this criticism by the reader is that the emotions, as feeling-cognitive states must be clearly understood and applied to these instances, if one is to grasp William James' ethical teaching. Since it is a moral theory which has certainly been very influential on the American continent, it makes it worthwhile to understand it as fully as its author conceived it.

If a mind exists then, which can feel *good* and *evil* and *obligation*, the possibility for goods and evils existing within the universe becomes an actuality. Thus, the existence of mind is the condition for the actualization of morality. Not, however, in the sense that the mind will apprehend an objective moral order which in turn imposes obligation on it from without. Rather, it is an interior *feeling* within of

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[215] *Ibid.*

rightness or wrongness - of 'fittingness' - which ultimately determines moral action or choice. This means that insofar as any individual feels anything to be good, he thereby makes it good. In a word, it is a brain-born feeling that renders this particular fact or idea good or bad. On this important issue, James says,

> It is good for him (the sensory-feeler) and being good for him is absolutely good, for he is the sole creator of the values in that universe (his mind) and outside of his opinion things have no moral character at all.[216]

With this textual statement we are in the full presence of the utter subjectivity of James' ethical teaching. This subjectivity is but a necessary consequence of this brain-bornness of our value judgements. They come to us not by the front-door - the way of experience, but rather, by the back-door way of neural processes.

We shall leave the problem associated with the notion of obligation and the existence of a pluralism of moral value-makers to the chapter in which we shall discuss the role of the moral philosopher in the presence of what inevitably must

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[216] Ibid., p. 191.

result in a universe of conflicting values.

For the present we should like to close this chapter with but two further observations. Given this brain-mind-subjective approach to ethical choices, there is no possibility for an ethical philosophy dogmatically made up in advance. James is firm on this point. According to him, everybody who passes through this mortal vale of molecules and atoms helps, by his unique, brain-born moral feelings, to make up the ethical philosophy of this universe. In short, he contributes to the moral life of the planet. James insists that this means that there can be no final truth in ethics, anymore than there can be a final truth in physics. Until the last man has had his say, that is, his experience, ethics will be an open subject. And by these individual experiences the completed ethical system is slowly but surely being determined.

Our final observation can be expressed as a summation. By way of summary then, it can be said that these aesthetic and moral feelings simply express harmonies and discords between objects of thought. It is true that outer cohesions that are frequently repeated will frequently seem harmonious.

But the fact is that all harmonies do not come to us in this way, but rather are the result of our feeling (emotion), which is the result of a secondary and individual function of the brain. They are postulates, not propositions with respect to the real world outside of the mind.

Philosophy still seeks to conceive things in such a way that these relations, that is, those of the moral and aesthetic order, seem to obtain between them.[217] But this philosophical task, it would appear, is a long one. It is the aim of both science and philosophy to make more numerous the propositions which are congruent with nature. Up until now, that is the nineteenth century, it has been "easier to identify nature's things with mental terms of the mechanical order than with mental terms of the sentimental order."[218] The sentimental order consists of the metaphysical, the moral, and the aesthetic postulates of reason.

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[217]Professor James is here speaking of the structured moral system to which every man assuredly contributes, but which is, in the first instance, the task or role of the moral philosopher to build. We shall see this in a later chapter when we discuss his role in detail.

[218]William James, Principles, p. 677.

In his concluding statement, James says that our mental structure has no doubt arisen from natural causes which are, however, connected, like all our other peculiarities, with those of our nervous structure.

> Our interests, our tendencies of attention, our motor impulses, the aesthetic, moral and theoretic combinations we delight in, the extent of our power of apprehending schemes of relations, just like the elementary relations themselves, time, space, difference and similarity, and the elementary kinds of feeling, have all grown in ways of which at present we can give no account.[219]

It would thus appear that psychogenesis is a matter which must, apart from the development of the nervous structure, remain a very obscure issue.

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[219] Ibid., p. 688.

CHAPTER VII

THE COGNITIVE FUNCTION OF FEELINGS IN RELATION TO REALITIES AS THE FOUNDATION FOR TRUTH

Having completed our study of psychogenesis, it becomes necessary to take up a very important problem that arises as a necessary consequence of this theory concerning the origin of our abstract knowledges. That problem, very briefly stated, is this: if our moral, intellectual and aesthetic knowledge results from feelings that are, in the final analysis, brain-born, that is, they do not originate in outer reality, how can the knower be certain that such knowledge is true and valid, and not merely a subjective condition of his own mind that has little relevance to the world in which he lives. To put the problem in a more philosophical perspective, what is involved here are fundamental problems of metaphysics and epistemology.

The metaphysical problem involves the very nature and structure of the outer world - 'extra mentem meam' - the epistemological problem is whether, and how the knower knows that outer reality. Given the utter subjectivity of this mental knowledge which we have discussed in the previous chapter, it would appear that the epistemological universe of William

James is made up of a vast, infinite plurality of knowers, each, it would seem, condemned to a lifetime of intellectual solitude. In a word, we have a universe composed of a pluralism of solipsisms.

The problem for William James, therefore, becomes that of getting these 'solitudes' out of their minds into some workable, pragmatic contact with the outer world, as well as into pragmatic contact with one another. Thus, the first business at hand is to establish that each of these many knowers are dealing with the same kind of universe. As we shall see, this is no easy task. We shall next take up a detailed study of pragmatism's conception of truth, and finally, apply it to the realm of morality, thereby indicating the role of the moral philosopher. All this shall constitute the matter to be covered in this and the two remaining chapters of the dissertation.

We must begin with a detailed inquiry into the 'what it is' of cognition, that is, the nature of the cognitive act. We have already discussed cognition in our earlier chapters, as a feeling state, noting how Professor James restored feeling to respectability within philosophy by his insistence that

it was essential to cognition and that without it no object could really be known. But here it is necessary to bring together all the data involved in cognition and treat it in its amplitude so that the Pragmatic conception of truth may be fully grasped. We turn now to the determination of the elements of cognition and all the other factors that it implies.

Let us briefly recall what has already been said about cognition. Cognition is a function of consciousness, that is, it takes place within it. The first element that an act of cognition implies, therefore, is the existence of a feeling, subjective, to be sure, but within consciousness. James says that should anyone object to this word feeling, the term 'idea', in its Lockian meaning, may be substituted; or the phrase, 'state of consciousness' or simply 'thought' might equally serve as well. He says that it is commonly accepted that some feelings are cognitive; others are simple facts that have a subjective existence, like physical events, but they do not possess a self-transcendent function as if they were pieces of knowledge. The problem that now begs solution is, why does common sense prescribe certain instances where such

self-transcendence is said to actually occur? And, how are these instances to be distinguished from the others that do not function in this manner?

In order to answer these questions let us assume the existence of a feeling. It is not attached to any matter, nor located in any particular space; it exists ' in vacuo' and it forms the entire universe. To avoid complication we may say that it is a feeling of no determinate sort; it is simply the feeling of 'q'. Now, can this solitary feeling have any sort of cognitive function? If to know necessitates something to be known, the answer must be in the negative, unless one insists that 'q' can know its own content. But it would seem more correct to call this supposed content the feeling's quality rather than a possible object of knowledge. As such, it is but a subjective fact which belongs to the feeling's very nature. Professor James states it this way,

> . . . it would be quite safe to assume . . . promptly that the quality 'q' of a feeling is one and the same thing with a feeling of the quality 'q'.[220]

The reader should keep in mind the physiological theory of

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[220] William James, "The Function of Cognition', Essay in Pragmatism and Other Essays, (New York: Washington Square Press, Inc., 1963), p. 144.

nerve currents and the knowledge which they convey, namely, their own qualitative condition. Professor James will allow the usage of the term, 'knowledge of the quality', if it be insisted upon. Nevertheless, common usage should be observed, and this usage prescribes the name knowledge only for the cognition of 'realities', that is, of things that exist independently of the feeling through which their cognition occurs. Thus, if our original feeling is to be cognitive in the above-mentioned sense, it must be self-transcendent. This means that there must exist outside of this original feeling, another feeling, truly real in so far as it is extrinsic, but corresponding to the first feeling's intrinsic quality 'q'. Assuming the existence of such a reality which resembles the feeling's quality 'q', only then can the feeling be said to be cognizant or aware of that reality. Let it be observed that the condition of knowledge is that there be resemblance. But then the problem is how does the feeling know it is knowing 'other as other'.

Before proceeding in the development of this theory of knowledge, a digression in appropriate to determine the precise meaning of the term 'reality'. What, in effect, is our justification for calling anything a reality? The reply

is important because 'reality' is what makes a feeling cognitive. The answer is to be found in one word - faith. And, as if to underscore this reply with his own experiences, Professor James says:

> The present inquirer - at every moment of his life finds himself subject to a belief in some realities, even though his realities of this year should prove to be his illusions of the next.[221]

Thus, if one finds that the feeling with which he is concerned expresses what he takes or believes to be a reality, then the feeling must be said to be cognitive. This then is the point of departure for this epistemological study, namely, the belief that there are realities. The liability of error is, to be sure, always possible. But Professor James assuringly says that the most that can be claimed is "that what we say about cognition may be counted as true as what we say about anything else."[222] This agnosticism with respect to the extramental world is a consequence of James' own 'empirical dualism' of mind and body. The Cartesian dichotomy of mind and body is still being felt in the nineteenth century.

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[221] Ibid., p. 145. [222] Ibid.

Returning to the main discussion concerning cognition, James says that the Kantians and the Hegelians, whom he terms the 'relationists' might seem to be raising serious objections to his theory of cognition when they insist that a perception that is detached from all others, being out of all relation, is simply nothing. It calls for no more consideration than does a sheer vacancy. And indeed, James admits that a perception-feeling can say nothing about itself or about anything else. If it does know 'q', it is because 'q' is an existent. Yet this knowledge of existential fact is a very minimum of knowledge. Are the so-called relationists correct then in referring to it as a psychical zero, since it cannot say anything essentially about itself or anything else?

The reply to the objectors is to be found in the two-fold way in which we can speak about the 'object' of knowledge. We may say that we know a thing, a man, a dog, etc., in the first way, that is, existentially. In the second way, we can say that we know such and such things about the thing, man and dog. Language itself recognizes this distinction by the different words that it uses to express the two kinds of 'knowledges'. Thus, noscere, connaitre, kennen, express the phenomenal aspect

of knowledge, that is, acquaintance or familiarity with the object known. It is the type of knowledge which results from the presentation of a thing to the senses or the representation of it in picture or type, a Vorstellung (an imaginative representation). It is a less intellectual type of knowledge.

The other kind of knowledge is intellectual in terms of its origin. Language expresses it by the terms: scire, savoir, and wissen. It is embodied in concepts and without an imaginative accompaniment, (because it is non-sensorial in origin), and expressed in judgments or propositions. There is, however, no reason why we cannot express our knowledge, whatever be its kind, sensorial or intellectual, in either manner, provided that it be clearly so expressed in the same proposition or piece of reasoning.

Now, on the assumption that the feeling of 'q' is but knowledge of the mere-acquaintance type, it is most unreasonable to expect to derive from it any knowledge-about. And, according to Professor James, the Hegelian desire to eliminate simple sensation is based on this false issue. Surely even the Hegelians must recognize the fundamental fact, that even after all the relational knowledge has been established, there still exists a need to have some knowledge of just 'what' things

all this knowledge is about. And since it is through sensation that existents are first obtained, the Hegelians are wrong in scouting it out of existence.

But it happens that the supposed original feeling gives a 'what'. Professor James is arguing for the primacy of the existential judgment or fact. Against the Hegelians, this means an affirmation of the importance of sensation as a starting point of 'real' knowledge. Now if other feelings should occur which also remembered the first feeling, its 'what' could function as the subject or predicate term of some judgment expressing relations between it and the other 'whats' which the other feelings may know. This, however, must be emphasized, that no relation-expressing proposition is possible unless there be a preliminary denotation of the reality or its content. Let the 'q' which our prisitive sensation is supposed to know be a sweet odor, a toothache, or whatever other kind of feeling, it must first be known (as an existent fact) before any knowledge about it can be attained. As James states it, "the knowledge <u>about</u> it - is '<u>it</u>' with a context added."[223] So much for the Hegelians and the Kantians.

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[223] <u>Ibid.</u>, p. 149.

We have seen that if there is in the universe a 'q' other than the solitary feeling 'q' with which we began, the latter is capable of an acquaintance with something outside of itself. This would necessitate two admissions: a) the feeling of the other is 'cognitive'; and b) that all the qualities of feeling, as long as there is something outside which they resemble, are 'feelings of qualities of existence', and most importantly, are perceptions of outward fact. The point of vindication of the cognitive function of the first feeling is based on the discovery that 'q' does exist elsewhere than in it.

Professor James says:

> In case this discovery were not made, we could not be sure the feeling was cognitive; and in case there was nothing outside to be discovered, we should have to call the feeling a dream.[224]

But it must now be pointed out that the 'feeling qua feeling' cannot by itself make the discovery of the existence of another 'q'. For it is only by its own 'q' that it grasps and its nature is in no way changed by this self-transcendent function of cognition which it displays. The cognitive function is

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[224] Ibid.

purely accidental and as such outside the being of the feeling. Professor James admits that it is strange to call what seems so important a function accidental, but he sees no way out of the difficulty. If we start with a reality and ask how it comes to be known, the only reply is the invoking of a feeling which reconstructs it in what James calls a private way, meaning of course, within the mind. So, if we start with the interior feeling and inquire how it came to know, the only reply here is the invocation of a reality which shall reconstruct it in its own more public fashion, that is, extramenten, in the public domain as it were. And it is precisely just this type of reconstructing that we are discussing. This statement very neatly summarizes his complete epistemology. The burden of determining whether the mind knows (possesses) truth is thrust upon outer reality. If it conforms to what is in the mind (reconstructs itself according to the idea in the mind) then the mind's content is verified. It is done in the public domain because other minds will know it too. In either case of reconstruction the datum that we begin with remains unchanged. For this reason, the cognitive function is said to be accidental (to the feeling). Here are James'

own words on this crucial matter:

> One may easily get lost in verbal mysteries about the difference between quality of feeling and feeling of quality, between receiving and reconstructing the knowledge of a reality. But at the end we must confess an unmediated dualism of the knower and the known.[225]

But how is this unmediated duality to be overcome; in other words, how is this 'q' existing elsewhere than in the original feeling to be discovered? Well, a feeling feels as a gun shoots. (We shall now see how the outer reality 'reconstructs' the interior feeling). Which means that if there be nothing to hit, that is, if there is no outer feeling to be discovered, then as in the case of the discharge of the gun meeting no opposition, so here nothing happens. On the other hand, if there exists this outer feeling, then it will be known, just as the gun hits when there is opposition to the bullet.

A new objection can now be raised, and it is this: how can one be really certain that the feeling of 'q' means to represent (cognitively) just the same other 'q' and no other. The sense of the objection becomes clear if it is assumed that there exist instead of just one other 'q', a number

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[225] Ibid., p. 307.

of real 'q's in the extra-mental universe. The problem is which one of these will the feeling know; which one does it stand for? If it be a simple matter of resemblance, it can be said that it resembles them all indifferently, and this is surely not the meaning of 'to represent' or 'to stand for' at all. Thus, for example, eggs resemble each other, but in no wise can they be said to represent or stand for, or finally, to know each other.

The situation is no better according to Professor James, even if one assumes a genuine pluralism of editions of the quality 'q' in the sense, that to each is given a distinct context or environment by which it would be distinguished from its associates. It might then be held that this original feeling 'in vacuo' knows the particular real 'q' whose context it most perfectly duplicates. But even in this situation a theoretical doubt is possible: Are mere duplication and coincidence knowledge? The reply must be negative, for knowledge is, in James' view, something dynamic; something must result from this knower-known relationship. As James says, again using his analogy of the gun:

The gun shows which 'q' it points to and hits,

> by breaking it up. Until the feeling can show us which 'q' it points to and knows, by some equally flagrant token, why are we not free to deny that it either points to or knows any one of the real 'q's' at all?[226]

without some manifesting sign of cognition similar to that of the gun exploding its target, this relationship (if any there truly be) between the feeling and one of the real 'q's' is simply that of resemblance and not cognition.

But in point of fact, every actual feeling does show which 'q' it points to, and the manifestation is quite as open and plain as that of a gun and its target. For in concrete cases the manifestation is always some kind of action. The cognitive feeling results in some definite kind of prac-- tical consequence.

Because this marks the central and essential point of the doctrine of pragmatism and James' view of the mind's construction of intellectual systems as enunciated in the Principles of Psychology, it seems appropriate to spend a moment here to make clear this aspect of James' epistemology. To illustrate the exact point at which cognition can be said to take place, James turns to an example from a field in which he was genuinely interested, namely, the realm of psychical

phenomena.

Positing a 'deus ex machina', let our god be asked to provide a world rich and replete with all kinds of events. Thus, he sends to one person a dream in which the death of a certain man occurs and simultaneously he causes just this man to really die. How, in this situation, could it be determined whether the dream of person (a) is a case of genuine cognition of the reality of the death of person (b), or just a marvelous coincidence of a's dream resembling b's actual death? Professor James points out that just such 'puzzling cases' were the mental-stuff with which his cherished 'Society for Psychical Research' was occupied; the goal was to interpret it in the most reasonable and plausible way.

Now the manner in which it could be determined if the dream be a true instance of cognition is as follows. If the dream was but a unique experience in the person's life, and if the context of the death in the dream differed substantially from that of the real death, and if the dream resulted in no action, then it (the dream) would be but a sheer and strange coincidence of no practical value or consequence. But, on the other hand, if the death in the dream agreed in every detail

with the real, extra-mental death, and if such dreams were a constant occurrence, and each and every dream continued to coincide, detail for detail, with real personal deaths, and if upon waking, the dreamer had the habit of acting immediately as if the dreams were true, then as Professor James states it:

> We should in all probability have to admit that the dreamer had some mysterious kind of clairvoyant power, and that his dreams in an inscrutable way meant just those realities they figured.[227]

Thus, even James' famous and controversial investigations into psychical phenomena had practical consequences for his philosophy. In the opinion of the writer there exists no finer, no clearer, no more concise descriptive explanation of how brain-born relations can be verified in the real, than this analogy of the dreamer and his dream. It ranks on a par with Plato's usage of the analogy of the cave to explain his own theory of knowledge. But to continue, Professor James says that all doubt concerning the cognition of the 'real' would disappear if from the dream, the dreamer would have the power of interfering with the course of reality, "and making the

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[227] Ibid., p. 151.

events in it turn this way orthat, according as he dreamed they should."[228] The dreamer's cry would be, 'Miracle of miracles, my dream works!' It would also be clear and certain to any observer that he and the dreamer would be dealing with the same reality - the successful interference being the warranty for this assumption. Thus, operability and success are the hallmarks of true cognition and a confirmation of extra-mental existents. James insists that men invariably decide the question of the real in this way. He says:

> The falling of the dream's practical consequences into the real world, and the extent of the resemblance between the two worlds are the criteria they instinctively use.[229]

In an interesting footnote James admits that a thoroughgoing objector to this view of cognition, both of objects and reality, could still charge that, even granting a dream should completely mirror the real universe, and that all the actions dreamed should be instantly matched by like actions in the outer universe, this would be nothing but a case of harmony, and it would be far from clear whether the dream-world really refers to the real universe which it so closely duplicates. Surely

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[228] Ibid. [229] Ibid., p. 152.

this is the ever ancient, but ever new epistemological problem of bridging the gap between the knower and the thing known, so that then what the knower possesses, no matter how obtained, is truly representative of the latter.

With respect to the above objection, James does admit its validity and importance, and he even grants that it involves 'deep metaphysics'. But he says, "I prefer to stick steadfastly to that point of view that any definitely experienceable workings would serve as intermediaries quite as well as the absolute mind's intentions would."[230] This latter reference to the absolute mind, who unites within himself the real 'q' and the Mental 'q', and thus can serve as the foundation for their identity, is the particular contribution of Professor Josiah Royce, James' 'idealist' Harvard colleague, to attempting to solve this controversy.

Professor James insists, and being a good physiologist for whom the central nervous system is the most vital organic system in the body (no possibility of cognition without it), that all feeling is but for the sake of action and that feeling

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[230] Ibid., p. 308.

results, always and everywhere, in action. This is too obvious a fact to even need any discussion and we shall later see how all-inclusive an epistemological principle this is for Professor James.[231]

But assuming this principle of all feeling giving rise to action, we find, by what James terms ' a most singular disposition of nature', for it could have been otherwise, that feelings do act upon the realities within the world of other minds. This point introduces another problem,for his cognitive theory, namely, how diverse and unique minds can know that they are knowing the same reality. Its successful resolution will provide still another confirmation for the knower that he truly perceives outer realities. If there are as many worlds as there are minds, then surely it is a problem of how these diverse knowers should come to know that they know the same reality.

In order to better explain Professor James' doctrine on this point, it may prove helpful to contrast it with what

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[231]When Professor James speaks of the obviousness of this fact, he has reference to the then universally accepted theory of the 'reflex-arc' which was discussed in an earlier chapter.

the so-called traditional philosophy holds concerning this correspondence between minds with respect to what they know. The mind in this latter view, is directly open to reality, a reality which is potentially intelligible and whose intelligibility is grasped through concepts, at once identical for all minds. These identical concepts can be communicated in an always uniform way through the instrumentality of language, which itself consistently retains the same signification. The crucial factor is that there is a direct cognition of the object-thing, albeit through the medium of the imagination and concept. This, however, is not the case in the Jamesian view of the knower and his cognitive activity.

Here are some of the essential differences from the traditional view. Firstly, what the mind knows is a feeling. It is an inner-feeling in no way cognitive until it produces a reaction outside. It is at this moment that it becomes cognitive of realities outside of the mind. Secondly, every mind is unique in this sense, that it is aware only of its feelings and subsequent cognitions of reality. Thus, it is as it were enclosed within the framework of its own feelings, of its own

mental world, as Professor James expresses it. But just as it cognizes outer reality by its being able to react upon it and change these realities, so in the instance of other minds working out their feelings in their respective worlds, if these operations have effects upon the realities in the knower's world, he is thus able to become aware (indirectly, however) of the realities of other mind-worlds and know that they resemble his.

It should be noted how in this situation of cognizing the other mind's world, cognition of reality is again the result of operability, inasmuch as the occasions of the neighbor's actions are what the occasions of our action would be. Professor James succinctly states the point thusly:

> Before I can think you to mean my world, you must affect my world; before I can think you to mean much of it, you must affect much of it; and before I can be sure you mean as I do, you must affect it just as I should if I were in your place.[232]

We are in dire need of an example to make the matter clear. Take then the notion of fire. As a knower, I become cognizant of another knower's feeling of fire, because I observe

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[232]William James, Pragmatism and Other Essays, p. 152.

that he acts toward the fire in my room just as I act toward it - he pokes it and presents his person toward it, etc. That binds me to <u>believe</u> (faith) that the other, if he feels fire at all, it is the same fire I feel, namely, the same fire in this room. It is in this way that the action of one mind can take effect in the mental world of another. But the reader is asked to attend to the apparent uncertainty that seems to attach itself as to the sameness of the object that is being experienced (felt) by the other mind in my presence. It is true that we see each other looking at the same objects, "pointing to them and turning them over in various ways, and thereupon we <u>hope</u> and <u>trust</u> that all of our several feelings resemble the reality and each other."[233] Yet this is a thing of which no absolute certitude is possible. Still, men who see each other's bodies sharing the same space, walking the same earth, swimming in the same water, pursuing the same game, etc., are, according to Professor James, certain that these practical effects are one and the same and mutually enter one another's worlds. In short, men will never

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[233] <u>Ibid.</u>

practically believe in a pluralism of solipsistic worlds.

Faith is necessary on this issue of sameness, because the knowledge process commences with this inner feeling, which must then go and find its object, if it is to become representative knowledge, and upon which it successfully reacts and thereby makes it real (only for the knower, it must be noted). It is in this way, highly personal and individual, that all minds operate. The problem for James is how, in the light of this theory of cognition, can a 'plurality of solipsistic worlds' be changed instead into a community of men able, significantly and intelligently, to communicate with one another.

By means of a common, essential object of knowledge is not possible, since no such entity exists. What each knower knows are his own feelings, which he finds relate to outer reality. His reactions to this reality are productive of actions which are similar to others on like occasions, v.g. the above cited instance of the fire, or the splashing of water. In this indirect way the other can enter the mind-worlds of others. The similarity of the reaction in the presence of a reality is the basis then for a cognitional community

among men. But since another's reality is never known except by him, it can only be a matter of belief that the source of the reaction is identically the same!

By way of contrast let us look at those instances where the actions of one mind appear to make no effect in the world of another mind. This is what happens in the case of poetry and fiction. All literate people know Ichabod Crane from the fictional novel of American literature, "The Legend of Sleepy Hollow". Now as long as we confine ourselves to the story in which this fictional gentleman occurs, we can say that there are as many of him as there are minds that know the story. In another illuminating footnote, Professor James expands on this multiplicity of an identical fictional character corresponding to the multiple minds knowing it.[234] He says that there is no real 'Ichabod Crane'; not even the one whom the author had in mind as he wrote the story is real. That one is but the first of the 'Crane-solipsisms'. But there is a way of making this one real if we should so choose; and

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[234] The reader can substitute any fictional character for Ichabod Crane. One may use 'Ivanhoe' of Sir Walter Scott's novel, which, in fact, is the character James uses.

his reality would then permit the other minds to refer their individual feelings of their own Crane to this reality, which they would then either know or not, according as their feelings resembled it or not. This would be accomplished by introducing the author of the first and original 'Crane', Washington Irving, in which case a complex object would be made of both. This complex object would now have dynamic relations, and this is important, with the world which is known - that is, experienced by all the readers. Let us see how these dynamic relations are established. Irving's Legend of Sleepy Hollow was, first of all, printed in many volumes which all the readers can handle - this affects their several private worlds; most importantly, any one of these volumes can be concretely referred to in order to determine which of the versions be the true one, i.e., the original one of the author himself. This is the manuscript itself. It should then be clear that we can get to the Crane in Irving's mind by many "an avenue and channel of this real world of our experience."[235] This would by no means be possible with Crane and the other characters of

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[235]William James, Pragmatism and Other Essays, p. 308.

the novel taken as a fictional story as such, that is, detached from the conditions of its productions as we have enumerated them above. The test or reality must always be this referrability to the world of concrete experience. As James so succinctly states it:

> Everywhere, then, we have the same test: can we pass continuously from two objects in two minds to a third object which seems to be in both minds, because each mind feels every modification imprinted on it by the other?[236]

If this be possible, the first two objects named are derivatives from the same third object, and can be held, on the condition that they resemble each other, to refer to one and the same reality. Let it be borne in mind that the resemblance must be achieved through some kind of outer reaction.

By way of repetition, these modifications mentioned in the text cited above are the practical effects of one's neighbor's feeling on one's own mind-world. But it cannot be repeated enough, that sheer resemblances between the 'Mr. Cranes of our novel' would in no wise make them identical. This plurality of solipsistic minds must somehow be made to

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[236] Ibid., p. 309.

know that, in fact, their various feelings of Crane are real resemblances. The identity must be affected through modifications exerted on these inwardly enclosed minds. If it were possible that one reader could invent some change in his version which would reverberate instantly throughout all the other versions, then it could be said that all the thinkers were thinking (knowing) the same Mr. Crane, and fiction or not, this object would form a little world common to all of them. In short, it would be a real object of knowledge, no matter what its existential status might be. I pause to ask if by this statement, Professor James is suggesting Bishop Berkeley's doctrine of 'esse est percipi'?

This somewhat curious doctrine concerning the 'real' would seem to clarify why in his work entitled The Will to Believe (a title he later very much regretted since it was unjustly misinterpreted as an all-permissive voluntarism; it should rather have been named "The Right to Believe".), Professor James steadfastly maintains that one is fully justified in holding an idea-feeling as 'real' so long as it is productive of beneficial results to the individual. We know from his own personal account in his letters, the great benefit

that came to him personally, when he decided to believe in the freedom of his will. As should be clear at this point in our development of his cognitive theory, this ontology of existence is but a correlative of this epistemological theory.

Returning now to our original example, the feeling 'q', we can express what has been thus far established in this way: that the feeling 'q' knows whatever reality it operates on and resembles, whether directly or indirectly. If it only resembles and does not operate on anything, it is only a dream; if it operates and there exists no resemblance, it is an error. Such an error occurs in those instances in which our feeling about a reality acts upon a reality which it partially resembles, but does not intend. For example, when one takes another's umbrella or coat, all the while intending to take one's own. Here the 'actor' or the taker cannot be said to know neither his own umbrella or coat as the case may be, nor does he know the coat or umbrella of the other individual. He mistakes them both by misrepresenting their context and is thus in error.

The introduction of this term 'intentionality' occasions this further point of clarification about the knowing process,

namely, that as there are earlier and later feelings of the same mind, it would appear possible to dispense with the necessity of operating on the appearance of every new feeling-state of mind in order to determine its cognitional status. For, as Professor James says, that we think we see our past feelings directly, and know what they refer to without appeal. Thus one need only to refer this more recent feeling to the earlier one which did the operating, by which it discovered the reality. If this is not the case, there still remains this possibility that one can always 'fix' the intention of our present feeling and make it refer to the same reality to which any one of our past feelings may have referred. The fixing of the intention would apparently refer to the context of the feeling - the circumstances of its reception, v.g., day or night, wintry day, Miami Beach, etc., or the mood it produced, v.g., anxiety, joy, disgust, etc. Arbitrary as it may all seem, it is ultimately the way in which we construct all our objects, according to Professor James.

What has been said thus far might seem to be confined only to the category of percepts, that is, realities like material things or actions or the states of consciousness of

another's mind, all of which are both mirrored and operated upon as soon as they are perceived. Yet there exists another category of cognitions - the whole field of symbolic or conceptual thinking which neither mirror nor operate on their realities. The question that remains is whether what has been said thus far has applicability even to these latter types of cognitions, if such they may be termed. These are the knowledges which are, to use an oft-repeated phrase of Professor James', the 'brain-born' type of knowledges, resulting in the mind from inwardly perceived relations which give rise to logic and mathematics (the pure sciences) in one instance; in another, to scientific theories (natural science), metaphysical and ethical systems. We have already discussed these latter types of conceptual systems in the previous chapter where we showed how they were connected with the subtler emotions. More will be said of them in the next chapter wherein we shall take up the question of truth. For the present we need only determine whether the principle of operability must also in some manner apply to them.

Professor James says that it is universally assumed that all symbolic thought intends, and reaches definite con-

clusions, and therefore knows particular, concrete realities for which there is no corresponding likeness, or mind stuff within subjective consciousness that resembles these realities even in a remote degree. Furthermore, we receive instruction about these realities in language which produces no consciousness beyond its own sound. We know which realities they are (they are outside the mind, it should be remembered) by the slightest and faintest reference to some remote context which they may have, but certainly by no direct imagination of themselves.

Professor James uses his own thinking (as he sits writing a book) which is, admittedly, almost exclusively subjective material, to make as clear as possible the status of this symbolic or conceptual thinking as knowledge. His book-writing thinking involves three things: words, a topic to be discussed and a conclusion.

Examining these individually, we find that the words are made intelligible by their reference to some reality which lies beyond the horizon of the writer's direct or immediate consciousness, "and of which I am only aware as of a terminal

'more' existing in a certain direction, to which the words might lead but do not lead yet."[237] The topic or subject of the words is that toward which the thinker is directing them as if in a backward way, "almost as I might jerk my thumb over my shoulder to point to something, without looking around, if I were only entirely sure that it was there."[238] James is here insisting upon the kind of unknowingness and uncertainty that exists when we first make the effort to relate conceptual entities to the outer-world, not knowing whether they will produce results. Finally, the conclusion or the end result of the words appears as something toward which the thinker inclines his head in a forward fashion - James' own words are very significant here:

> . . . as if giving assent to its existence, the all my mind's eye catches sight of may be some tatter of an image connected with it, which tatter, if only endued with the feeling of <u>familiarity</u> and reality, makes me feel that the whole to which it belongs is rational and real and fit to be let pass.[239]

Thus the conclusion is real as long as it can be associated with something, a 'tatter' of an image, as Professor James

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[237] <u>Ibid.</u>, p. 184. [238] <u>Ibid.</u> [239] <u>Ibid.</u>

calls it, but it must be endowed with the all-important feeling of familiarity and reality, which makes the writer feel that the greater whole to which it belongs is rational and real. In a word,a feeling that this creative activity is about something real, and has relevance to the already experienced world. The 'tatter' mentioned in the text would be one of the words that could be concretely related to the outer world.

This, according to Professor James, is cognitive consciousness on a grand scale, and yet, what it knows it slightly resembles in the least degree. The resemblance is very slight because brain-born conceptions are involved.

The cognitive rule can therefore be considerably expanded to cover this field of conceptual thinking, to wit:

> A percept knows whatever reality it directly or indirectly operates on and resembles; a conceptual feeling, or thought knows a reality, whenever it actually or potentially terminates in a percept that operates on or resembles that reality, or is otherwise connected with it or its context.[240]

Admittedly this is a complex rule, but we shall use one of Professor James' examples to aid in rendering its meaning

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[240] Ibid., p. 155.

clearer. But first it must be noted that the percept in which the conceptual feeling or idea terminates may be either a sensation itself, or a sensorial idea arising therefrom. If this terminal feeling be a sensation, it must be derived from practical experience; if the termination be by way of a sensorial idea, this idea must come from logical or habitual suggestion, the latter being ultimately derived from experience of the outer world. In both instances then, the conceptual feeling terminates in experience and must do so, if it is to be accounted valid knowledge about the real.

Let us now turn to the above-proposed example which, it is hoped, will make this last point absolutely clear and aid in the better understanding of the meaning of Pragmatism, to which we shall momentarily turn. In the example Professor James uses, a critic or epistemologist whose own <u>beliefs</u> will serve as a guarantee or warrant for the belief that our percepts as possessed by us in common, are connected with the <u>same</u> outer world. The procedure is ultimately the same as was used to overcome a community of solipsisms. Another mind must be used to verify that our concepts are about real things.

James asks that we assume that we open any book and

read the first sentence that meets one's eye. Let the sentence be the following: Newton saw the handiwork of God in the heavens as plainly as Paley in the animal kingdom. A quick consideration of the subjective mental state that ensues upon the reading of the sentence would undoubtedly give the following impressions: 1) a feeling that the sentence was intelligible and related to the world of realities; 2) a sense of harmony would be 'felt' to exist between 'Newton', 'Paley', and 'God'; 3) heavens, handiwork, and God would be mere words with no associative image; 4) the term 'animal kingdom' would suggest a Museum of Zoology (James says he thought of the one that actually existed in Cambridge, Massachusettes. But no matter, any reference will do, just so it refers to the concrete, experiential order. The reference may be very oblique or tenuous, but so let it be.) 5) with the term 'Paley', the terminal reference would be a faint consciousness of a small, dark leather book; and finally 6) with 'Newton', a distant vision of the curling periwig which he wore would be aroused. This would constitute the 'mind-stuff' in consciousness upon the apprehension of the proposition. All the suggested referrals to real experiences, despite their faintness, distance, etc., mean that my conscious-

ness was truly cognitive, because the sentence is about realities. But it is the characteristics of faintness, distance, and even vagueness which necessitates the role of the critic-epistemologist. For it is he, possessing his own beliefs, to be sure, who will guarantee that our individual percepts are commonly possessed. Here the extrinsic critic-epistemologist acknowledges the sentence-ideas to be about realities, just as he acknowledges my distinct feeling that they are realities, as well as the feeling of assurance that I have that the cognitive element that I have ascribed to them is valid and true. Verily, this is quite a task to assign to this critic-epistemologist. But according to Professor James, he can fulfill this task

> . . . because in countless like cases he has seen such inadequate and symbolic thoughts, by developing themselves, terminate in percepts that practically modified and presumably resembled his own.[241]

These thoughts start the journey to this perceptual-terminus by developing themselves, which means that they obey their tendencies, follow the suggestions latently present in them.

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[241] Ibid.

In the example used above, one could develop one's thought in the 'Paley' direction by purchasing or lending the brown leather volume and calling to the attention of the critic-epistemologist all of the passages which pertained to the animal kingdom. He could be shown that the words used meant for him just what they meant for you by the representation 'in concreto' (the practical order) of the animals and the arrangement which is constitutive of their kingdom. (This, of course, within the pages of that book). One could bring forth Newton's portrait and all his books, etc.; by act and word, I could try to persuade him that what I mean by 'God' and 'the heavens', and the analogy of the handiworks, is just what he means, too.

The entire effort would be directed to convincing him that the words mean for him just what they mean for me. Let it not be forgotten that his acknowledgement is crucial; his will be a kind of double warrant for the reality's existence since, as has already been stated, the distance between conceptual thought and the reality, even though it be felt, is vast, and assurance is needed. The demonstration or proof is made by means of appeal to his personal sensorial experience.

Thus my conceptual thought causes me to act on his senses just as he would act on them were he set upon the task of discovering the consequences (realities) of a perception that was his own. In effect then, one could say that through such action, the acting upon his senses, the originating thoughts - Paley's book, Newton's wig, the analogy of God's Heaven, etc., practically terminate in his own realities, that is, percepts. As Professor James puts it:

> He willingly supposes them (my thoughts) to be of them, and inwardly to resemble what his own thought would be, were it of the same symbolic sort as mine.[242]

The activity here is comparable to the way in which a scientist convinces a colleague that his abstractly born (brain-born) scientific theory (feeling) is true. He takes the colleague into the laboratory and gives him, there and then, the sensations which the theory suggests. He thus demonstrates to his colleague that the 'conceptual theory' is true and real for his mental world, too.

Because of this belief that the percepts of each knower

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[242] Ibid., p. 156.

are possessed by other knowers in common, there follows the conviction (belief) that we all know and think about and talk about the same world. That any object found in these two feeling worlds is felt in the same way, or that there is a resemblance between the felt feelings is, according to Professor James, something concerning which certainty is impossible of attainment. The sameness in both instances is but the simplest assumption to be made. Professor James says concerning this point:

> As a matter of fact, we are <u>never</u> sure of it, and, as an epistemologist, we can only say that of the feelings that <u>should</u> not resemble each other, both could not know the same thing at the same time in the same way.[243]

The 'should' in this text indicates the great uncertainty involved in these cognitive matters. Given the situation where the feelings should not resemble, if each holds to its own percept as the reality, one is bound arbitrarily to say of the other percept that, though it may intend that reality and even work upon it, yet since it doesn't resemble it, it is all false and wrong. It would appear that some kind of certitude must be reached, even though that certitude is itself not absolute.

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[243] <u>Ibid.</u>, p. 157.

This divergence in percepts occurs often enough in the field of sensation where individuals differ so greatly. But the divergence in the field of the higher modes of thought is far wider still; even the simplest modes of conceptual thought manifest this wide divergence. Professor James suggests that in the area of general theories and emotional attitudes concerning life, the world-views differ so radically, that with Thackeray, the English writer, he must agree when he writes, "My friend, two different universes walk about under your hat and mine."[244]

This should not be surprising because these conceptual views are brain-born, and since men do differ in brain structure and resultant mental activities, it is natural to assume that vastly different conceptions should arise.

What is there within this order of conceptual thought to prevent a chaotic conglomeration of mutually repellent solipsisms to exist? How shall these exclusive minds communicate in these higher modes of thought? The answer is like that which obtains at the level of sensation; chaos is avoided,

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[244] Ibid.

> . . . through nothing but the mutual resemblance of those of our perceptual feelings which have this power of modifying one another, which are mere dumb knowledges-of-acquaintance, and which must also resemble their realities or not know them aright at all.[245]

Thus it should be the aim of all minds to terminate higher thought in sensational termini, namely, in those pieces of knowledge-of-acquaintance mentioned in the text. Otherwise, the higher order of thought would not be knowledges-about, since 'termini' or percepts or better, sensible stimuli are the only realities that we ever directly feel. Though such sensations may be demeaned by some philosophers, Professor James hails them as the mother-earth, the anchorage, the stable rock, the first and last limits of the mind. This is high praise indeed and within this epistemological view, they surely deserve these lofty encomiums, for they are the only avenue for the mind to reality.

They have the added virtue of ending discussion and controversy among men; without them men could never be sure they had the same meaning with respect to things. Thus, if

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[245] Ibid., p. 138.

two men act the same way on a percept, they <u>believe</u>, and rightly, that they feel alike about it; if not, they can be sure that they know it in differing ways. But in all events, there exist no other tests that we truly understand one another, until the issue is resolved in this way.

We are now prepared to turn to Pragmatism's conception of truth.

CHAPTER VIII

PRAGMATISM'S CONCEPTION OF TRUTH

Professor James treats this singular doctrine, which has historically become intimately associated with his name, in the work simply entitled Pragmatism. It consists of eight essays which in a very thorough manner treat the nature of this truth-concept as well as demonstrate its consequences for philosophy and some of her persistent problems, especially those which are designated as epistemological.

For our purposes we shall confine our treatment to two very specific questions concerning pragmatism: What does it mean? What is its conception of truth?

A). PRAGMATISM AS A METHODOLOGY

First let us consider Pragmatism as a method. In Professor James' conception, it is first and foremost a method of settling metaphysical disputes, which otherwise would never end, going on 'ad infinitum'. Such are the controversies that rage about whether the world is one or many? Whether it is part of a free or determined universe? Whether it is basically material or spiritual in nature, etc. If one apply the prag-

matic method to these questions, their resolution is by way of determining the 'practical consequences' which would result from each alternative of the above-paired-notions. The test is: what practical difference would it make to anyone should one, rather than the other notion be true. If no practical difference results, then it can be safely assumed that the supposed alternatives mean practically the same thing, and that whatever dispute arises concerning these concepts is comparable to fighting with sheer air. Where a dispute is serious, it must be possible to show some practical consequence that necessarily follows from either option being right.

The origin of the idea of 'Pragmatism' will give more light as to the precise meaning of this concept. Its etymological meaning is derived from the Greek word πρᾶγμα which means action, and is at once the root of the English terms 'practice' and 'practical'. According to James, it was the philosopher Charles Peirce, who first introduced the idea into philosophy. In an article which appeared in 1878, entitled How to Make our Ideas Clear, after stating that our beliefs are but rules for action, Peirce continued by saying that to develop a thought's meaning, it is only necessary to

determine what conduct it is suited or fitted to produce. The resultant conduct is the thought's sole and unique significance. In fact, all the thought-distinctions that are made are ultimately reducible to but possible differences of practice. Thus, to achieve perfect clarity in our thoughts about any object, we need but consider what conceivable effects of a 'practical' kind the particular object would involve, that is, what sensations we should expect from it, and what reactions we should prepare for these same sensations once they come. "Our conception of these effects, whether they be immediate or quite remote, amounts to our whole and complete conception of the object, in so far as the conception has a positive significance at all." [246]

Peirce is insisting that the thought of any object is for the purpose of expectation of sensations and reactions upon these. If we were to proceed no further, this could be said to be 'in essence' the Jamesian doctrine of Pragmatism. But this would not be adequate for our purposes. We must patiently pursue with Professor James all the momentous consequences this

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[246]Cited in William James, Pragmatism, Lecture 2, p.24.

simple doctrine has for the nature of truth. One is almost inclined to say that James, like Kant, produced a revolution in philosophy comparable to that of the great Copernicus, in the field of astronomy. For no one could deny that Pragmatism represents a novel way of attaining truth.

Continuing the history of this idea, Professor James says that this Peirce-inspired principle of pragmatism passed completely unnoticed for some twenty years until he (James) revived it in a lecture given in the year 1898, at the University of California. He used it there in a religious context, and we might note that it does appear again in his famous Gifford Lectures, The Varieties of Religious Experience. At any rate, the times appeared propitious for the reception of this new doctrine. Once the idea was launched the word spread rapidly, and the controversy it occasioned filled the philosophical journals. But, alas, as Professor James states it:

> On all hands we find the 'pragmatic movement' spoken of, sometimes with respect, sometimes with contumely, seldom with clear understanding.[247]

Professor James was to spend endless hours and ink in his

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[247] Ibid.

efforts to get his critics to at least make serious efforts to understand the true nature of 'pragmatism' and not judge it in the light of their preconceived 'fancied' understanding.

He insisted that there was nothing new in the pragmatic method. Socrates was certainly skilled in its method; Aristotle used it very methodically. Locke, Berkeley and Hume made, according to James, momentous and everlasting contributions to truth by its usage. But though forerunners of pragmatism they be, they did not use the method in a generalized, over-all manner. Theirs was the partial application of it to reality. "Not until our time has it generalized itself, become conscious of a universal mission, pretended to a conquering destiny."[248]

Pragmatism, furthermore, is <u>empirical</u> in its attitude toward the world, but its empirical orientation is more <u>radical</u> and perhaps a less objectionable form than has yet appeared.[249] Thus the pragmatist turns his back on abstractions, on fixed principles, closed systems, and pretended absolutes and origins. He prefers action and facts. As a method it does not stand for

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[248]Ibid., p. 25. [249]On James' empiricism, a more detailed analysis of this philosophical attitude will be found in the Appendix B.

any special results. But Professor James points out that should it triumph as a method in philosophy, or better, as 'the' method, one of the most beneficial results would be the closer coming together of Science and Metaphysics. A consummation greatly desired even in our day. They might, in fact, work hand in hand. As Professor James understands this intimacy, Science would ultimately resolve all the problems of metaphysics, so that it is conceivable that it could ultimately disappear as a meaningful body of knowledge.

Now metaphysics, in James' view, has always followed a very primitive kind of inquiry. Men from time immemorial have been lured by magic, and it is manifest what a great part 'words' play in magic. Thus, the possession of the name or the formula of incantation gives some control over the power or powers that be. In just this magical way, the universe has been viewed as a kind of mysterious enigma, the key to which was to be found in some appropriate illuminating or power-bringing word.

According to Professor James, "That word names the universe's <u>principle</u>, and to possess it is after a fashion

to possess the universe itself."[250] Here are but a few examples of these magic-solving names: 'God', 'Matter', 'Reason', 'the Absolute' and 'Energy'. In their possession is found safety and rest; more significantly, the metaphysical quest is put to an end.

But the pragmatic method eschews any such comforting but meaningless quiescence. For pragmatism, no word can bring to an end the eternal quest. Rather, pragmatism must seek out the 'practical cash-value', that is, utility of any such word; will it work within the framework of one's experience? In this kind of context any such name must be considered less a solution of the world's mystery and more as a program for work. But its greatest utility, however, is as an indicator of the ways in which the realities which men experience can be '<u>changed</u>'. We have already seen this central thesis of James' philosophical perspective: knowledge in and for itself is of no consequence. It must be ordered to some kind of action, which in this instance, is to bring order into the chaotic outer world.

Thus, theories of any kind, whether scientific or

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[250] William James, <u>Pragmatism</u>, p. 26.

philosophical, are mere instruments. They are not definitive answers to enigmas in which one can confidently rest, taking a 'moral holiday', as it were, from the tasks at hand. As Professor James expresses it:

> We don't lie back upon them, we move forward, and, on occasion, make nature over again by their aid. Pragmatism unstiffens all our theories, limbers them up and sets each one at work.[251]

Furthermore, since it is not a new method, it blends well with some very ancient philosophical attitudes. For example, with Nominalism it agrees in the primacy of the particular and the concrete. With Utilitarianism it says that the practical aspects of an issue are the essential ones. Finally, with Positivism it is equally disdainful of verbal solutions, useless and meaningless questions and metaphysical abstractions. As these attitudes are all anti-intellectualistic tendencies, so too is Pragmatism, which must be considered ever militant against the pretensions of Rationalism, promising to give final and ultimate answers to metaphysical questions. Pragmatism has no dogmas, no doctrines, only its methods.

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[251] Ibid.

In an excellent analogy Professor James poignantly illustrates this latter point that Pragmatism has no particular theory or dogma, but only a method belonging at once to all theories. He compares Pragmatism to a corridor in a hotel in which innumerable chambers open out to it. In one of these chambers is found an atheist writing his volume; in the next, some one on his knees praying for faith and strength; in a third, a chemist searching out the properties of the body; in the fourth, a closed system of rationalistic-idealistic metaphysics is being worked out, while in the fifth, the impossibility of all metaphysics is being demonstrated. Yet all these diverse and opposing efforts own the one corridor, "and all must pass through it if they want a practical way of getting into or out of their respective rooms."[252] In short, all these various theories take their origin from the facts of experience and must needs find their verification in practical results within that same experience.

This analogy should serve to reinforce a point already made about the instrumentality of all theories. Surely the existence of the various types of thinking, simultaneously

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[252] Ibid., p. 27.

taking place in the hotel chambers, all of them at once conflicting, and neither of them capable of supporting a claim to absolute certainty, makes for a favorable acceptance of Pragmatism's view that all such theories are instrumental. As instruments, they are mere mental modes of adaptation to reality - thought making itself accommodate to outer reality - rather than 'revelations or gnostic answers' to a divinely established world-enigma.

The restlessness, the divergencies, of the actual theoretic-conceptual situation, the value for some purposes of each of these thought-systems, and the final inability of each to invalidate the others is a strong argument for this pragmatic view, and should become totally convincing once Pragmatism's conception of truth is fully grasped. It is to this task that we now turn, with but this final remark on its methodology. As an attitude in philosophy, Pragmatism is the looking away from first things, first principles, ultimate categories, supposed necessities. It is rather an attitude of looking towards last things, that is, fruitions, consequences and facts.

B). Pragmatism's Conception of Truth

The word Pragmatism has come to be associated with a much wider meaning, namely, as a unique theory of truth; a theory which abounds with all sorts of practical consequences, as shall soon be seen. To begin, truth is commonly acknowledged to be a property or characteristic of certain ideas which we possess. It implies an agreement with reality, just as falsity means a disagreement with this same reality. Professor James allows that this definition as it stands is just as acceptable to the Pragmatist as it is to the opposing camp, the rationalists or intellectualists. The conflict begins when either group raises the question as to the meaning of the term agreement, and what is meant by reality, as signifying that with which our ideas should agree.

According to James, the intellectualist subscribes in an irreflective manner to the popular notion that a true idea must necessarily copy reality. Like all popular conceptions, this one glosses over the manifest difficulties. For example, if one looks at a clock hanging on a wall and then quickly shuts his eyes, he would have in his mind (James makes no facultative distinctions, it must be pointed out) only a true copy

of the clock's dial. His idea, however, of the clock's inner mechanisms (unless the individual in question were a clock-maker) would be far less such a copy. But vague as the latter may be, it is permitted to pass since it in no way clashes with reality, as it manifestly would were such an individual to try to act upon the mechanisms with this totally inadequate idea.

But let us suppose that one begins to converse about the clock's 'time-keeping function', or the 'elasticity' of its spring, then Professor James is in a quandry as to just what such mental concepts could copy. In his view, there is no sensorial percept to which these notions could be referred, which means, of course, that they are relational ideas pure and simple, in no way derived from reality. They are instead imposed upon reality in the sense that they do bring about practical consequences in the outer world.[253]

Now, if such brain-born concepts are unable to copy

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[253]For an understanding of this and what is to follow, the reader must keep in mind the essential dichotomy that exists between the body - the source of sensorial percepts arising from stimuli - and the mind, which is the source of ideas (feelings) due to incidental complications of our cerebral structure.

definitely their object, what does agreement with the object then mean? James is here trying to illustrate, as well as ridicule, what he considers the simplistic view of the so-called intellectualist position of truth-agreement-with-object theory. He concludes that this copy-theory cannot account for all the facts and thus the facts invite pragmatic discussion.

But the greatest weakness of the Intellectualists' position is the assumption that truth implies in the knower an inert static relation. As Professor James puts it:

> When you've got your true idea of anything, there's an end of the matter. You're in possession; you know; you have fulfilled your thinking destiny. You have obeyed your categorical imperative; and nothing need more need follow on that climax of your rational destiny.[254]

Professor James considers such a state of stable equilibrium farthest removed from the truth. For the Pragmatist, the possession of true thoughts means everywhere the possession of invaluable instruments for action. Thus, if an idea or belief is true, pragmatism asks its usual question, 'what concrete difference will its being true make in one's actual life?' What experiences will now be different from those which would occur if it were false? What is the truth's cash-value,

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[254]William James, Pragmatism, Lecture VI, p. 88.

that is, what can be done with the idea in the experiential world. Ideas are related to the experienced world, not as copies, but in terms of the results that they can effect there. The mind must go out to meet reality. If any idea effects results, it can be called true. Thus, "True ideas are those that we can assimilate, validate, corroborate and verify. False ideas are those that we can not."[255]

The old traditional conception of the truth of an idea being inherent in its possession of some stagnant, inert property derived from things is utter futility. On Pragmatism's view, truth happens to an idea; the idea becomes true, is made true by events. Its verity is thus an event and a process. The process is the means by which it seeks to verify itself in reality; the event is its actual verification.

Verification and validation themselves signify certain practical consequences of the verified and validated idea. The phrase that characterizes these consequences best is the ordinary agreement formula. This means that the verified and validated idea leads us, by means of the activities and other

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[255] Ibid.

ideas to which these activities give rise into or up to, or towards, other parts of experience with which we 'feel' all the while that the original idea remains in agreement.

This is a somewhat taut summation of the complex role of the true idea, but we shall soon expand on it in greater detail for clarity's sake. As we shall see, the connections and transitions that the verificatory process gives rise to, come to us from point to point as at once progressive, harmonious and above all, very satisfactory. This 'agreeable leading' is what ultimately is meant by the idea's verification.

That true thoughts and true beliefs are necessary instruments of action for life should be notoriously obvious to any unprejudiced spectator. For we live in a sea of realities that can be both beneficial and harmful to us. Hence, those ideas which will tell us which reality to expect are the true ones, and the discovery of such ideas is an extremely important business for any man that wishes to survive. But the possession of truth leads to other vital satisfactions as well. Thus, if one is lost in the woods, without food or shelter, and suddenly comes upon a cowpath, it is crucial that he 'think' of a human habitation at the end of that path and

follow it, else he shall surely perish. In this instance the true thought is useful because the house which is its object is useful. Thus, the practical value of any true idea is essentially derived from the practical importance that its related 'real' objects have for us at that particular time and specific place. Conversely, it follows that objects are not important at all times. On another occasion, the house may have no value. My idea of it, no matter how verifiable, will be, from the practical standpoint, irrelevant and should therefore remain dormant. But since we can never know when the need for it will occur again, this and many such ideas, we simply store in memory; they can be said to be ideas which shall be true of merely 'possible situations'. As Professor James says:

> Whenever such an extra truth (extra implying a temporary importance) becomes practically relevant to one of our emergencies, it passes from cold-storage to do work in the world and our belief in it grows active. You can say of it then either that 'it is useful because it is true' or that 'it is true because it is useful'.[256]

Thus <u>true</u> and <u>useful</u> are convertible terms; they simply mean an idea that obtains fulfillment and is thus verified. In

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[256] <u>Ibid.</u>, p. 90.

fact, James maintains that we would never have even bothered to single out and denominate ideas with class names were it not for this utility value which they possess.

From this latter characteristic, namely, utility, Pragmatism derives its central notion of 'Truth' as something involving this manner in which one moment of experience leads us to other moments which proves to be a profitable connection or progression. This means that the Truth of a state of mind, primarily and on the common-sense level, implies this function of a 'leading to that is worth while'. Professor James says in this regard,

> When a moment in our experience, of any kind whatever, inspires us with a thought that is true, that means that soomer or later we dip by that thought's guidance into the particulars of experience again and make advantageous connection with them.[257]

We shall see the ramifications of this guidance-system presently. For the moment let it suffice to say that it is an essential aspect of the whole structuring-function of the mind in conjunction with experience. In the text just cited, clearer understanding could be had by reading instead of 'inspires', 'is

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[257] Ibid.

the occasion for the production of a thought which is true'.

Now our individual experience consists of regularly occurring events. Thus, one experience can prepare us for another experience, that is, the former can 'intend ' or be 'significant of' the latter, which is the more remote object. The appearance of this remote object is the verification of its mental signifier, so that this idea now becomes true or real.

The objects or realities here meant are the things of common sense which are sensibly present, or common sense relations such as dates, places, distances, kinds, activities. Ideas leading to these can be said to be the originals or the proto-types of the truth-process. Recall the example of the mental image of the house whose appearance was occasioned by the sight of the cow-path! The resultant action of following it, brought the lost traveler to the the reality, the house. The reader must keep in mind that in this system of truth every idea must be verified, either directly or indirectly.

Concerning these indirect or only potential verifying processes, if one, for example, looks at a clock on his desk, it is so considered to be even though he does not see the hid-

den, moving parts that make it to be a clock. The notion is permitted to pass as true without verification. Such unverified truths constitute, according to Professor James, the great numbers of truths that we live by. They are not opposed, in the sense of being contradicted, since they are productive of results. I simply assume its 'moving mechanisms' and it measures for me true time by which I can order the day's activities.

In like manner, we assume that Russia exists without ever having been there, simply because it works to do so. The circumstantial evidence is sufficient. The only condition that need be observed in these situations and like instances is that the assumption meet no frustration or contradiction. Such a rule is practical because, for the one truth-process that is completed by verification, there are millions more that must function in this state of potential verification. Professor James says of these potentially verifiable ideas that

> They turn us towards direct verification; lead us into the surroundings of the objects they envisage; and then, if everything runs on harmoniously, we are so sure that the verification is possible that we omit it, and we are usually

justified by all that happens.

Truth lives then, for the most part, on a credit system - our thoughts and beliefs are accepted, as long as they meet no challenge, just as bank-notes pass so long as nobody refuses them.

Yet, and this point provides a good insight into the basic Jamesian notion of truth, there must needs be direct face-to-face verifications somewhere, for otherwise the whole fabric of truth would collapse like a financial system with no cash basis whatever. This must be so for without verification ideas are just ideas; they have no cash-value and would be nothing but empty dreams.

The situation is remedied by the fact that we actually trade on one another's verifications. In short, we trade on each other's truth. Thus, beliefs concretely verified by 'somebody' are the very foundation of the whole superstructure of Truth. Without this verification we could never be sure that we were dealing with the real, outer-sensorial world.

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[258] Ibid., p. 91.

This verification is our only guarantee that we are.[259]

Another reason which justifies the elimination of the time-consuming direct verification procedure is that, peculiarly enough, the world of our experience consists of things that exist as 'kinds', that is, they possess, like characteristics since they produce in us like feelings. Thus when we have once directly verified our ideas of one specimen, we can freely apply these same ideas to other specimens without verification. Miracle of miracles, we find that a mind which customarily does this will be a 'true mind' in ninety-nine out of a hundred emergencies, all because its actions upon the object are fitting and meet no refutation.

Let it be noted that there would always exist a degree of uncertainty when we approached any object, but this is probably mitigated by the 'habit of expectancy', that Hume so well delineated in his treatment of the 'feeling' with which we expect one event to follow upon another event. Nevertheless,

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[259]Professor James is here using the same psychological technique that he employed to verify that our conceptions(feelings)were about realities and not dreams, and that the universe was not one of pluralistic solipsisms. Conceptions had to be related to reality. Here, because of that relation, they are denominated true.

despite the possibility of error, these indirect or potential verifying processes can be as true as the direct verification processes; since the ideas work as if they were true, they give the same advantages, and they claim our recognition for the same reasons.

We are now ready to examine in detail what has been previously termed the 'leading' function of truth. It was indicated that this 'guidance' aspect was the essence of truth. Let us therefore make this activity as clear as we possibly can.

We have seen that realities mean either a) concrete facts or b) abstract kinds of things (the mental sphere) and the relations that have been intuitively apprehended as existing between them.

> They furthermore and thirdly mean, as things that new ideas of ours must no less take account of, the whole body of other truths already in our possession.[260]

Now what does 'agreement' with these three-fold realities mean?

Professor James notes that it is at this point that the pragmatist and intellectualist (the so-called copyists)

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[260]William James, Pragmatism, p. 93.

viewpoint part company. Again he wonders how the mind can be held to copy such obvious abstractions as 'past time', 'power', and 'spontaneity'? No representation of such realities is conceivably possible. That is, they cannot be derived from any outer stimuli.

To agree in the widest sense with a reality, means for Pragmatism:

> To be guided either straight up to it or into its surroundings, or to be put into such working touch with it as to handle either it or something connected with it better than if we disagreed. Better either intellectually or practically.[261]

Professor James admits that the copying of a reality is indeed a very significant and important way of agreeing with it, but he dismisses it as not being essential. What is far more important is the process of being guided. We need to be guided, because the mind cannot directly know any reality, separated as it is from it. As a matter of fact, even granting some contact with the real, one might ask what there would be to know about the real, since Professor James rejects out of hand the 'stock rationalist trick', as he puts it, of treat-

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[261] Ibid., p. 94.

ing the 'name' assigned to a concrete phenomenal reality as an independent prior entity, and placing it behind the reality as its supposed explanation. Names are just handy tags of designation; they do not designate any intrinsic nature or essence. This is why a response to a dumb feeling must be a guided one, precisely because the feeling is 'dumb'. Thus, any idea that will help the mind to deal, either intellectually or practically, with either the reality or its environment, any idea that fits, that is congruent with the reality and adapts our life to the reality's whole setting, will meet this requirement of guiding. This idea can then be said to be true of that reality. Thus truth becomes a function; truth does something, or more properly, truth becomes the name of something, because it has performed this service of guiding the mind to the reality. To understand this, one must strike from the mind the traditional notion of truth as an adequation of the mind with a reality ready-made, that is, one containing natures which are potentially intelligible, needing but the activity of the mind to make them actually so. James' conception of the universe is totally different, as we shall soon see, and the task of the mind within it is far more dynamic and creative than a simple seeking of a sterile adequation with

things.

Since Professor James' universe lacks intelligible natures, ideas can only be 'fitted' to the realities. In fact, it will often occur that agreement will only imply a negative fact, namely, that nothing contradictory will come from this newly-found reality to impede or frustrate the way in which our ideas guide us elsewhere.

Parenthetically, I would like to comment at this point that I cannot resist the thought that in this entire 'guidance-system' aspect of his truth-theory, Professor James is taking a leaf from his physiological text-book. Permit me to explain. In the reflex-arc theory, the tendency of the reaction to any stimulus is to react at the point of the stimulus. In the case of the incoming sensational stimulus, since it would cause the corresponding feeling or idea in the mind to which there would then be an appropriate reaction, that reaction should conceivably correspond to the stimulus. In other words, the reaction should 'fit' or be appropriate to the stimulus - at the point of its origin. A brain-born feeling or idea would also run out (produce a reaction) upon the outer realities with which the body at that precise moment happened to be in contact. To

be sure, in these instances, 'hit and miss' is a very great possibility. But memory of past associations can come to one's aid and minimize the misses. In any event it should never be forgotten that for James the body is always being stimulated by incoming sensations, even though to the majority of these we do not attend.

If this observation be granted, then it can rightly be held, as James maintains, that the idea guides the mind straight to the reality (the stimulus) or into its surroundings. This is surely the case with the sensorial percepts. With our theoretic knowledge, the guidance seems, at least in some instances, to be more one of chance as we have said. Still, it does seem more than likely, that the principles of physiology did provide the key; and even though the relationship between the outer reality and the idea be a very tenuous one, there does exist some ground for the ideational guide-lines.

In the Pragmatic view then, all human thinking gets discursified; we give names to things, by which we can exchange ideas, which results in the lending and borrowing of verifications by means of social intercourse. As Professor James puts it:

> All truth thus gets verbally built out, stored up, and made available for everyone. Hence we must talk consistently, just as we must think consistently; for both in talk and thought we deal with kinds.[262]

The names we give to realities are arbitrary, to be sure, but once they are agreed upon, they must be kept; otherwise we would deprive ourselves of whatever truth that the entire system of speech and fact may embody. It follows, therefore, that names are just as 'true' or 'false' as definite mental pictures are, for they too call up similar verification processes and lead to fully practical results.

As has already been stated, but which can be profitably repeated here, the vast majority of our true ideas admit of no direct verification, just like those of past history.

> The stream of time can be recounted only verbally, or verified indirectly by the present prolongations or effects of what the past harboured. Yet if they agree with these verbalities and effects, we can know that our ideas of the past are true.[263]

That past time did exist and the events within are true, is guaranteed by its coherence with everything that is true in the present time. Hence, as true as the present _is_, the past _was_ also.

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[262] _Ibid._ [263] _Ibid._

Agreement is then nothing but this fact of leading and directing. It is a leading by the 'idea' that is useful, because it leads us to areas within experience that contain objects that are important to us. As James puts it, "True ideas lead us into useful verbal and conceptual quarters as well as directly up to useful sensible termini."[264] It is this leading function which is so serviceable in providing the consistency, stability, and continuity of human discourse, and thereby transforms what might otherwise be isolated, barren, and eccentric individual thinking. Indirect verification is permitted to be assumed, but this whole structure of true discourse must be directly verified in experience somewhere, an experience that somebody's ideas have copied and by which the process of indirect verification then starts. What is at stake is truth itself, for it must be grounded in sensible, phenomenal, extra-mental reality.

In this sense, William James is a realist, albeit a unique and different kind than the name usually implies, for he certainly knows where the truth must be found, even though once in the outer reality, the knower may experience some

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[264] Ibid., p. 95.

difficulty in finding his way around that world. But this uncertainty should not be surprising, for James accepts the scientific view of the latter part of the nineteenth century that the outer world is a chaotic, unintelligible swarm of molecules and atoms, which makes the need for a guide doubly imperative.

The example of scientific theories are especially illuminating on this point, for they show the large and loose way in which the pragmatist understands this term 'agreement'. It is applicable to any process of movement from idea to a future terminus (reality), provided only that the process is an unimpeded one. Thus, the scientific theory that reality is made of ether, atoms, electrons, protons, and all the other sub-atomic particles, a theory which flies beyond the credibility of common sense, can be said to agree with reality. But Professor James cautions,

> It is, as I have already said, as if reality were made of these elements, but we mustn't think so literally. The term 'energy' doesn't pretend to stand for anything 'objective'. It is only a way of measuring the surface of phenomena so as to string their charges on a simple formula.[265]

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[265] Ibid.

Now it should not be assumed that these brain-born formulas are haphazardly applied to reality. From the multitude of them, only that one can be chosen which will work, and this means something extremely difficult indeed. For the theory must serve to unite all previous truths and certain new experiences, which means primarily that common sense opinions and previous beliefs should be disturbed as little as possible. Furthermore, the theory must also lead to a sensible terminus which can be verified by exact experimentation. This indicates the main reason for the laboratory in all the branches of scientific knowledges. Thus workability means these two very important functions and, because many scientific hypotheses cannot satisfy these requirements, they end up in the junk heap.

Where it does happen that several scientific formulas are applicable to the facts which we know, the problem is which shall be chosen. Here the 'subjective factor' is the guiding principle. We simply choose the one that appeals to us most;; we follow 'elegance' or 'economy'. The latter implies that of two equally validated scientific conceptions, one, naturally enough, would choose the less complicated of the two. To repeat, truth in science gives us the maximum of satisfaction, so long

as consistency with previous truths and the new novel fact which prompts the theory are taken into account.

It is with these most rigorous and exacting demands in mind that William James considers the protests of opponents to the pragmatic theory of truth as 'impudent slanders' emanating from supposed intelligent men, but seemingly men incapable of understanding the theory. A favorite formula they use for describing the doctrine is that it is tantamount to saying whatever you find it pleasant to say and then calling it truth. The pragmatist is, according to these critics, one who destroys all objective standards and instead substitutes pure foolishness and caprice. Professor James complains about it in this way:

> The unwillingness of some of our critics to read any but the silliest possible meanings into our statements is as discreditable to their imaginations as anything I know in recent philosophic history.[267]

Hence, if Professor Schiller says that the true is that which 'works', the critics contemn him as one who limits verification to the lowest material utilities. When Professor Dewey

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[267] Ibid., p.103.

maintains that truth is what gives 'satisfaction', he is treated as one who believes in calling everything true, which if it were true, would be pleasant.

How unjust these critics were has been amply demonstrated above. We need only reiterate that the pragmatist, more than anyone else, experiences the pressure of objective control exercized by the established truths of the past on the one hand, and on the other, the coerciveness that comes from the world of sense existing about him. Thus, he is far from giving reign to fanciful but fruitless flights of reason, as is the common practice among the rationalistic philosophers. Professor James well describes this deplorable situation which he finds to obtain in philosophy:

> Beautiful is the flight of conceptual reason through the upper air of truth. No wonder philosophers are dazzled by it, still, and no wonder they look with some disdain at the low earth of feeling (sensorial experience) from which the goddess launched herself aloft.[268]

It is rationalistic philosophy which disdains the real world and in the lofty confines of the mind spins systems which have

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[268] William James, Pragmatism, p. 158.

no conceivable, and therefore, objective anchoring in reality.

Ultimately then, for the pragmatist, Truth is simply a name for the verification processes, to which we are guided by the idea. Let it be recalled that the very core, heart, essence of pragmatism is this guidance function. This is why Professor James keeps insisting that all thought is for action, and that action is guidance. The purpose of the guidance is to build up truth. It is in this sense that truth can be said to be created.

Furthermore, this truth is not imperishable, for it, like the reality from which it is partially gleaned, is in a constant and everlasting process of mutation. We shall say a little more of this shortly. Thus, in the presence of this Heracletian-type flux, the truth is whatever is expedient. As Professor James states it in the famous and often quoted passage:

> The true, to put it very briefly, is only the expedient in the way of our thinking, just as 'the right' is only the expedient in our way of behaving.[269]

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[269] Ibid., p. 98.

Expediency is, in this context, to be understood in the broadest sense possible, since what may expediently meet all the experience within one's present purview, may not necessarily meet all future experiences with equal satisfaction. This is but a consequence of the mutability of outer reality. This also makes more manifest the impossibility of there existing an 'absolute moral law', legislating once and for all for all possible moral experiences. Such an 'absolute' has resolved itself, with the passage of time, into 'expediencies',, even though that may not be the case within the philosophic classrooms of his day, as Professor James sardonically notes.[270]

So it is that men live by the truth that is obtainable today, and are ever ready to call it falsehood tomorrow. Ex--perience has this way of 'boiling over' and causing us to correct presently held formulas. Thus:

> Ptolemaic astronomy, Euclidean space, Aristotelian logic, scholastic metaphysics, were expedient for centuries, but human experience has boiled over those limits, and we now call these things only relatively true, or true <u>within those borders</u> of experience.[271]

As absolutes, these hypotheses are false, for they might have

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[270] Harvard, in James' day, was still very much under the influence of what he termed rationalistic-idealistic philosophy, v.g., Kant, Wolff, Hegel, etc.

[271] William James, <u>Pragmatism</u>, p. 98

been transcended by past theories just as they have been by present thinkers (late nineteenth century).

By way of concluding this detailed analysis of Pragmatism's conception of truth, it seems appropriate to sketch in broad strokes on the canvas some very significant conceptions that Professor James has about the universe in which the pragmatic method and its concept of truth will work.

First of all, just as our experience is in constant mutation, so is the outer reality from which it comes, and the truth that we discover in it. Professor James holds that our first awareness of reality is the flux of our sensations. These sensations are forced upon us, coming from whence we know not. We have no control over their nature, order or quantity. As such they are neither true nor false; they are but realities. There would appear to be no objection to even calling them existents. Truth or falsity appears only at the moment that we say something about them (ideas), or give them names, or apply to them theories concerning their source, nature and remote relations. But that truth will not apply to them as though they were things-in-themselves, possessing definite natures; the truth is applicable only to what we have

said in the several ways about them. In short, our ideas will be true or false if they work or do nothing.

The full nature of the kind of activity that truth must perform is brought out, I believe, in the way in which our objects are made. According to James' metaphysics, 'things' are not ready-made, as it were, existing in the outer world, waiting but to be 'known' or copied by a plastic mind that is open to all possible objects. This is the inert, static view of the rationalist that James so vehemently rejected. In citing this position he says:

> Truth is not made (for the rationalist) it absolutely obtains, being a unique relation that does not wait upon any process, but shoots straight over the head of experience, and hits its reality every time.[272]

In this view the belief that the thing on the wall in front of us is a clock is true at the moment of the perception, even if no one in the entire history of the world should verify it. It is the simple quality of standing in this transcendental relation to it that makes any thought true that possesses it. There is no need for verification. And here is precisely the crux of the problem. For the rationalists, the knower grasps directly the intelligibility of the thing which is held to be

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[272] Ibid., p. 96.

potentially intelligible. The intellect is, of course, dependent upon the senses for this object; this is why the rationalist will maintain that the mind knows the intelligibility of existents.

For Professor James this is not the case at all. He sees the matter entirely differently on two fundamental points: 1) reality is not standing outside of the knower ready-made; and 2) there is no direct relationship between the mind and the brain, the latter being its physical counterpart. Let us just briefly look at these two points of divergence. Concerning the thing which becomes for us an object, he says that out of the infinite chaos of movements which physics holds that the outer world consists, from this undistinguishable, swarming continuum, devoid of distinction or emphasis, our sense-organ picks out from these movements those which fall within certain limits of velocity. To these alone the organ responds and ignores the other movements as if they did not exist. Then it accentuates particular movements for which there is no objective ground. By way of illustrating this divergence between stimulus and the resultant sensation, Professor James cites Lange who says,

> There is no reason whatever to think that the gap in nature between the highest sound-waves and the lowest heat-waves is an abrupt break like that of our sensations.[273]

For that matter as well, there seems to be no valid physical ground to suppose that the difference between violet and ultra-violet rays has anything like the objective importance that is subjectively represented by the difference existing between light and darkness. Parenthetically, it must be commented that here we see the first instance of the gap between knower and thing known, for it would appear that the sensation tells us little, if anything at all about its stimulus. Professor James says that "both the sensational and the relational parts of reality are dumb; they say absolutely nothing about themselves. We it is who have to speak for them."[274] It is like being given the block of marble and then proceeding to carve out the statue for yourself.[275] But I think one should also see here the great role that James envisions for man with respect to this chaotic

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[273] William James, Principles, Vol. I, p. 284.

[274] William James, Pragmatism, Lecture VII, p. 108.

[275] Two influences are at work here; a) the physiological doctrine on nerve transmission that holds, we know, the qualitative change within it and not the thing causing the stimulus, and b) the doctrine of John Locke concerning secondary qualities of things, namely, that they are the result of modifications occurring in our sense organs.

universe. It is man that will put order into it with the activity of his mind. But more of this later.

However fixed these fluctuating elements of reality may be, their very dumbness gives us a certain freedom to deal with them (creativity). Even though a given organ, by reason of its terminations (structure), be constrained to receive a specific type of sensation, yet it is the knower who by his attention, out of all the sensations that come in, pickes out certain ones as worthy of notice, and suppresses all the rest. Professor James says about the nature of things, that they are

> . . . nothing but special groups of sensible qualities, which happen practically or aesthetically to <u>interest</u> us, to which we therefore give substantive names, and which we exalt to this exclusive status of independence and dignity.[276]

Thus we can say that a 'thing' is something interestingly made. He is in fact so strong on this point that in another context he says that a psychologist's attitude toward cognition is that it is a thorough going dualism, to wit:

> It supposes two elements, mind knowing and the thing known. Neither gets out of itself or into

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[276] William James, <u>Principles</u>, Vol. I., p. 285.

> the other, neither in any way is the other, neither makes the other.[277]

He adds further, that all the 'known' need do is to strike the brain in some way, and this being done, "knowledge is constituted by a new construction that occurs altogether in the mind".[278] Professor James admits that this might sound very much like the Kantian view of our making the object. But he very quickly replies to this charge:

> Superficially this sounds like Kant's view; but between categories fulminated before nature began, and categories gradually forming themselves in nature's presence, the whole chasm between rationalism and empiricism yawns.[279]

Thus we can say the thing (in mente) is not reality, but our belief about reality. This belief is made up of our inward sensations, constituting what James calls the human element, but by the process of verification, v.g., its workability, we can know the non-human element, namely, the extra-mental world of chaotic and perhaps dangerous movements.

Dangerous though it may be, it is imperative for us to deal with this outer world, even if it be in this indirect way. Given this type of universe which science says exists,

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[277] Ibid., Vol. I, p. 219. [278] Ibid.

[279] William James, Pragmatism, p. 108.

we can see one reason why truth must herein assume the role of finding agreement, and not simply knowing it.

The second point on which there appears to be disparity with the rationalistic position on truth, concerns the body-mind problem, or to use the terminology which correctly expresses the context within which Professor James sees the matter, the relationship between the mind (consciousness) and the brain. He says that:

> The ultimate of ultimate problems, of course, in the study of the relations of thought and brain, is to understand why and how such disparate things are connected at all.[280]

It is quite obvious from this text that he does admit the difference in texture of make-up of these two realities. One is material and organic; the other is not. Professor James, in his attempt to solve this perplexing problem, examines very closely the several solutions which have been suggested in the history of philosophy, including the soul-theory. These are to be found in the chapter on 'the Mind-Stuff Theory' of Volume I of the Principles. Let it suffice here to say that he finds that all the proposed solutions create more problems

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[280] William James, Principles, Vol. I, p. 177.

than they solve. But he does not reject any of them, since there are both reasons for and against each of them so that "one cannot afford to despise any of these great traditional objects of belief."[281] He adds that there is always a great drift of reasons which argue in each one's favor.

But Professor James needs a working hypothesis, one which contents itself with verifiable laws, that is, one which will work and to this extent will be accounted true. He opts for what he calls 'Empirical Parallelism'. This is the theory that consciousness or the mind, which is an integral thing since it has no parts, 'corresponds' to the entire activity of the brain, whatever it may be at any given moment. In his own words:

> We ask ourselves whether, after all, the ascertainment of a blank unmediated correspondence, term for term, of the succession of states of consciousness with the succession of total brain-processes, be not the simplest psycho-physic formula, and the last word of a psychology which contents itself with verifiable laws, and seeks only to be clear, and to avoid unsafe hypotheses.[282]

If the relationship remains unmediated, however, then how is

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[281] Ibid., p. 181. [282] Ibid., p. 182.

the mind to become aware of what is transpiring in the brain-processes. It will be recalled that the organ with which the mind was in contact was the brain. James rejected psycho-physical parallelism, according to which there is no causal contact between the brain and the mind; he opted for an 'interactionism' which he termed, as we have already mentioned, 'empirical parallelism'.

In this view, James gives to feelings a cognitive function whereby they become the point of contact between the non-material, or at least, non-organic consciousness and the brain reverberating with neural currents. The emotions, which in their origin are organic processes giving rise to feelings, have the central role of being this contact point between the duality of mind and brain. In fact, it is only by feeling that one really knows an object, according to William James. I think it should now also be clear how physiology gave James the idea to connect (interaction) mind and body by means of feelings or the emotions.

Professor James expresses the matter this way,

> Through feelings we become acquainted with things, but only by our thoughts do we know about them.

> Feelings are the (essential) germ and the starting point of cognition, thoughts are the developed tree.[283]

The text stresses that both elements are necessary for knowledge, but what would thoughts be without the contact with the real which feelings provide. James is at great pains to make clear that the mental states which he designates as feelings are, on the one hand, the emotions; on the other, sensations which we obtain from the skin, the muscles, viscus, eye, ear, nose and palate (taste). These basic organic functions then play the connective role between mind and body by the feelings that they produce. More significantly for the understanding of this very complex doctrine concerning truth, which he has labeled 'Pragmatism', these sensation-emotions (for all sensations imply emotions) are a kind of 'dumb' link to the real, outer world. They are denominated 'dumb' since they tell us little about that outer-reality. This is why they do not seem a sufficient link to the reality. But the mind must be made to know the world directly or at least more than in this indirect way of feeling the changes reverberating through the body. To leave it at this would be tantamount to saying

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[283]Gay Wilson Allen, William James, a Biography. (New York: Viking Press, Inc., 1967), p. 266.

that one's awareness of reality is reducible only to a 'feeling' that it was there. The pragmatic view of truth serves to join the mind, in a genuinely cognitive way, to the real world, the world of experience. It is the verification-process, that is, the production of change in that outer experiential world, which is the guarantee that all our thoughts are not a dream, but have relevance and applicability to an outer world! Not that we ever know that world in the old discarded sense of representational correspondence; we know it in a much better way, that is by creating it out of the unending chaos which is presented to our senses. What an inspiring notion this gives rise to: man's divine, creative function. Underscoring this point, Professor James says of this view:

> The essential difference between pragmatism and rationalism is now in sight . . . for rationalism reality is ready-made and complete from all eternity, while for pragmatism it is still in the making, and awaits part of its complexion from the future.[284]

In such vastly different worlds, one complete from all eternity, the other being slowly structured by the editions which men

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[284]William James, Pragmatism, p. 113.

make to it as they conceive their truths, should it be surprising that two totally different conceptions of truth must inevitably result?

We must now in the final chapter apply the Pragmatic method to the moral lives which individual minds create for themselves. This is the primary role of the moral philosopher, and to him and his activity we now turn.

CHAPTER IX

THE PRAGMATIC METHOD AND THE FUNCTION OF THE MORAL PHILOSOPHER

Of a very delightful essay in which he discusses what might be termed 'man's inhumanity to man', James says that it is no mere piece of sentimentalism but rather connects itself with a definite view of the world and our moral relations with it. In the writer's opinion this short essay clearly and succinctly enunciates James' entire moral teaching. It is for this reason that we begin this chapter with a few comments on what James says in that essay.

It might be appropriate to point out here the precise meaning which Professor James attaches to this term moral. It is beyond doubt radically different from the commonly accepted notion that human acts are to be measured by some moral rule or regulative standard. For James, the term 'ethics', or 'morals' simply implies ideas that will result in beneficial consequences for the individual that entertains them.

We have already seen that our judgments concerning the value or worth of things, be they large or small, ultimately depend upon the 'feelings' which these things are capable of stimulating within us. In those instances where we judge a

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284a William James, "On a Certain Blindness in Human Beings, Essay in Pragmatism and Other Essays, (New York:

thing to be 'precious' because of the idea which we have of it, this is only because the idea is itself intimately associated with a feeling. As James points out,

> If we were radically feelingless, if ideas were the only things which our mind could entertain, we should lose all our likes and dislikes at a stroke and be unable to point to any one . . . experience in life (as) more valuable . . . than any other.[285]

We have already seen this doctrine concerning the emotions and value judgments in detail; it is re-iterated here to underscore the kind of activity that is characteristic of the moral philosopher. The utter uniqueness of these moral or value judgments poses problems for him to resolve, and at the same time it causes blindness in other human beings. By his very individualized physiological constitution, a human being is constrained to judge himself, his work, his duty, as being the best in the universe. This intense feeling of the importance of one's own duties is, according to James, in each one of us a vital secret, and we look in vain to others to appreciate it. Others are too much absorbed in their own vital secret, and it is this private concern that prevents them from taking an in-

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[285] William James, "On a Certain Blindness in Human Beings", Essay in Pragmatism and Other Essays, p. 251.

terest in the value judgments of other individuals. Yet, others do tend to judge their neighbors and their interests. Of this adjudication James says,

> Hence the stupidity and the falsity of our judgments, so far as they presume to decide in an absolute way on the value of other person's conditions or ideals.[286]

As we are but spectators of other beings, we can in no way expect to arrive at the truth concerning other people. In a word, the judging spectator fails to see the values of the other man. We would appear then to be existing once more in plurality of solipsisms, this time, however, in the realm of value judgments. What sort of mediation can there be in a moral universe where everyone's feelings of worth are equally as good, and demand fulfillment no matter how much these might conflict with other persistent claims for realization. Professor James suggests that where there exists conflict of opinion and inevitable differences of opinion, it is necessary to believe that the truer side is the one that feels the more, and not the side that feels the less. Thus, feelings are everywhere paramount.

Now, if every sensory-feeler is the sole creator of his

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[286] Ibid.

own values so that they become absolute goods for him, and if there be a multiplicity of sensory-feelers each exercizing his value-creating activity, it is inevitable that conflicts of demands shall originate. If utter chaos and social anarchy are to be avoided, some impartial arbiter must be found to adjudicate amongst the several billion moral solitudes with their own subjective moral judgments "beyond which there is nothing moral in the universe."[287] Describing very poignantly this universe of moral solitudes James says,

> We find real life for us in the ethical sphere something like the world the ancient skeptics conceived of, in which individual minds are the measures of all things, and in which no 'objective' truth, but only a multitude of 'subjective' opinions can be found.[288]

With everyone making moral judgments the result is a moral universe without any visible unity.

The moral philosopher is the one whose task it is to establish some kind of unity midst this diversity of ethical demands. He must begin his task with the ideals which exist in the diverse minds and put them into some kind of unified form. The conviction which is his point of departure is that

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[287] William James, "The Moral Philosopher and the Moral Life", Essay in The Will to Believe, p. 191.

[288] Ibid., p. 192.

among this plurality of ideals there must exist those which have more truth and therefore, authority to which all the others 'ought' to give way. This 'ought' would impose an obligation on the other moral-feelers to follow these preferred systems of values.

But one thing that Professor James insistently warns about is that such an obligation must not be imposed in a dogmatic fashion, that is, by the imposition of an absolute code based on a supposed abstract moral nature of things, existing antecedently to the concrete thinkers themselves, who individually possess their own system of moral ideals. No, the subject matter with which he begins is, as has been said, the concrete individual ideals existing in individual minds. In the work of establishing a morally unified universe, all of these must be taken into account.

Now just as the attributes 'good' and 'evil' are derived from the fact that they existed actually and concretely in someone's actual perception (he felt certain things to be good, others evil), so the comparative terms 'better' and 'worse' must also be realized in someone's perception, if they are to be real. "They must be made flesh", to use James' phrase, "by being

lodged concretely in someone's actual perception." Borrowing the Berkeleyian phrase, James says, "its 'esse' (the comparative judgment - better - worse) is 'percipi', like the esse of the ideals themselves between which it obtains."[289] In a word, to be real is to be known.

Thus, in seeking to discover which 'one' known ideal ought to have supremacy, and which should be subordinated to it, the moral philosopher must look for the obligating 'ought' in some existing consciousness. He must find it in some mind, because beyond this data he cannot go.

The problem that now presents itself for solution is to discover which individual consciousness among the many that exist in this universe can enjoy so sublime a prerogative of obliging all others to follow the 'ought' which it imposes. If one of the thinkers were Divine and the others human, there would be no practical dispute about the matter. The divine consciousness would simply indicate its 'fiat', to which the others would necessarily conform. But even allowing his existence, a further question would still exist. What would be the ground, or foundation, for the obligation as such?

In answering this question, the ordinary man would tend

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[289] Ibid., p. 193.

to fall into an easy assumption, namely, that there existed an abstract moral order in which the objective truth resides; that in the light of it, each man seeks to establish that his own moral judgments are better conformed to this pre-existing moral order than that of his supposed adversary. James says, "it is because one disputant is backed by this overarching abstract order, that we think the other should submit."[290] James says that if we take an unencumbered look at the question of obligation,

> . . . we see not only that without a claim actually made by some concrete person there can be no obligation, but that there is some obligation wherever there is a claim.[291]

Thus, the rule is that claim and obligation are co-extensive terms; they cover one another completely. James says that he realizes how difficult it is for those persuaded to the superstitious view that there exists an obligation to subject oneself to a system of moral relations conceived as 'true in themselves', to realize that every claim, no matter from where or whom, creates a corresponding obligation. In an ethical system which is theistically oriented, the deity is conceived as the

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[290] Ibid., p. 194. [291] Ibid.

one whose actual demands upon us requires us to think just as he does, since the existence of the universe is dependent upon his will. In this situation, the validity of the claim arises from something outside of the claim's mere existence as a fact. Its validity comes from the sublime dimensions of being, existing in the heavens, as it were, which the moral law is said to inhabit. But then, the validity attaching to the claim and making it imperative, is like the imperativeness which obligates the steel of the compass needle to submit to the influence of the magnetic poles. It is something extrinsic to the claim. This makes Professor James wonder, "how can such an inorganic abstract character of imperativeness, additional to the imperativeness which is in the concrete claim itself, exist?"[292] This means that any demand, no matter how slight, which any creature, no matter how weak or insignificant, might make 'ought' for its own sake to be satisfied. Let those who hold otherwise assume the burden of proof.

The only thing that could possibly interfere with the fulfillment of such a demand would be another demand from some

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[292] Ibid., p. 195.

consciousness which would go in a contrary direction. And essentially speaking, the only reason why any phenomenon ought to exist is that such a phenomenon is actually desired by someone. The result being that any desire is imperative and should be fulfilled to the extent of its amount. It makes itself valid and obligatory of fulfillment by the fact of its existence. To put it in a word, desires must be fulfilled.

To be sure, there exist desires which are small, and are put forward by persons of insignificance, as has been said, and not surprisingly, these claims customarily are made light of by other persons. But even the largest obligations are fundamentally the result of some personal demands. Thus, no matter the quality of the person who makes them, if they are made, they must be fulfilled, because a concrete consciousness has made them.

Even if we were to admit the existence of some superconsciousness, universal or divine, then its demands would carry the greatest of obligations simply because its demands were greatest in amount (which compels acute attention), and not because of any supposed greater dignity.

Scrapping abstract notions of greater dignity and worth,

James says that the only insistent avenue of appeal for any claim is through the human heart, as it chooses to either be responsive or not. Even a living god and/or an abstract moral order (the natural law) must make their entreaties through this corridor. That these latter will not be too successful unless they become living things, is foretold by James when he says,

> . . . so far as they do feel it, the appeal, when made by a living consciousness, it is life answering to life.[293]

If, on the other hand, the response of the heart is withheld, it is due to the impotence of the claim; this is a phenomenon which this universe embodies and which "no talk about an eternal 'nature of things' can gloss over or dispel."[294] It should be clear to the reader that the response to any claim depends ultimately upon the subjective mood at the time it is being made and claimed. Here we see in full display the activity of feeling in its emotional aspect. Thus, no extrinsic factor can determine the response, be it a god or some divinely conceived natural law. It is an interior feeling that prompts

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[293] Ibid., p. 196. [294] Ibid.

the response or the refusal.

Thus the claims, expectations and obligations as well as the correlative obediences, refusals and disappointments which constitute the moral life take their origin in the feeling (emotional) aspect of Man's physiological nature.

Where conscious minds make these claims on one another, there exists an ethical world in all its essential features. As Professor James says,

> Whether a god exists or whether no god exists in yon blue heaven above us bent, we form at any rate an ethical republic here below.[295]

Thus ethics or moral philosophy is just as genuine and real in a universe where the highest consciousness is human as in a universe where a Supreme Being should reign. The religion of humanity affords a basis for ethics as well as deism does.

We must now address ourselves to the problem which the moral philosopher alone can resolve, namely, discovering that system of truth which is to obtain over all the individually conceived opinions concerning the moral life. This is his task 'par excellence'.

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[295] Ibid., p. 198.

It must at the outset be granted that we exist in a universe where the existence of a divine thinker has always been doubted by some of the spectators of the human caravan, and where, despite the large number of ideals upon which human beings agree, v.g., murder is evil, theft is iniquitous, lying is reprehensible, etc., yet there exists a vast mass of other personal ideals about which no general consensus can be obtained.

By way of illustration, there are the wars of the flesh and the spirit that exist in each and every man. To which side shall victory be accorded! There are as well, the desires of different individuals which result in their pursual of the same unshareable material or social objectives. Finally, there are those ideals which result as a consequence of differences in race, economic and social circumstances, bodily temperaments, philosophical beliefs, religious convictions, etc. All of these seem to be valid claims and just demands which nevertheless form a confusing totality. In what direction does salvation lie? The moral philosopher rightly insists, according to Professor James, that there must be one ideal system that will supersede all conflicting demands. In

the pursuit of this ideal, the first step is the re-affirmation of an insight already gained, (Professor James never tires of injecting this point wherever he can), that whatever that final truth be, it cannot consist in a self-proclaiming set of moral laws or 'an abstract moral reason'. It can only exist 'in actu', that is, in someone's experience, or in the shape of an opinion (feeling) held by some thinker really existing somewhere in this universe.

Yet, in all frankness, it must be stated that no visible thinker (at least in James' day) appears to be invested with such sublime legislating authority.

Should the moral philosopher then proclaim his own set of ideals or value judgments as those to be invested with a juridical mantle? Not so, because even the philosopher's cherished ideals are but part of the totality of moral ideals that exist. If, furthermore, the philosopher is to succeed in discovering that one system of truth constitutive of the unified moral order, the guise of impartiality must be made real. In a word, the test of the truth must be an impartial one.

But the real difficulty is that the test must be incarnated in the demand of some actually existent person, since

it can nowhere else be found. The problem then is how to pick out this person, without at the same time ascribing to his individual and concrete sympathies and prepossessions an all-legislative function.

A method which recommends itself as a means of escaping the dilemma, is that taken by the more serious ethical schools. Thus, if it could be found, that all goods, that,is, things desirable, inasmuch as they were desirable, contained some common ground, some common essence, then a hierarchically ordered scale of such goods could be established on the basis of the degree of this particular common essence that could be found in any one good. This 'universally shared' essence would be the 'good' upon which all individual thinkers agreed, and it would provide the moral philosopher with that relatively objective and universal good (standard) that he seeks, in order to solve this serious problem.

James notes the numerous and varied essences of good (norms of morality) that have been proposed in the history of philosophy as bases for ethical systems. To begin, there is the Aristotelian notion of the good as a 'mean' between two extremes.

There is the other kind of good which is recognized by a special intuitive faculty (Scottish School of Common Sense): the good that adds to the perfection or dignity of the individual (Eudaemonism); the good which flows from the judgment of reason or from the discovery of some universal natural law (scholasticism); the good in conformity with the law of God; the good which prolongs the continuance of the human race on this planet; the good that makes the agent happy for the moment (hedonism); or in the long run, etc.

But after all is said and done, no one of these proposed norms has, according to Professor James, been found to give general satisfaction, that is, to every member of humanity. All that can be said concerning these proposed goods is that each one equally has the capacity to bring happiness. But as James comments about the various goods,

> No one of these measures that have been actually proposed has, however, given general satisfaction. [296]

The examples of this failure abound and are all too clear, so that we need cite only some instances of their grave insuf-

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[296] Ibid., p. 200.

ficiency. Take, for example, the character of harming no one, or that of giving unquestioned obedience to a universal law. It often happens that the best course in a particular case is a cruel one which causes great pain. Again, many acts are reckoned as good on the sole condition that they are exceptions and, as such, do not serve as examples of the universal law.

Other goods, like the obeying of the will of God are too unascertainable and thus too vague to be prescriptive of human action. And so it goes with all the rest; each has its own weak points.

The conclusion from all of this is that any universal norm, in order not to break down fatally, must cover acts and impulses which were never intended to bring happiness.

Thus we seem to be almost impelled to enunciate the most universal principle of all, according to James, namely, that the 'essence of the good' is but this: <u>That all demands be satisfied</u>. Moreover, these demands may be for anything under the sun, since they take their origin within the 'breast of every human being that treads this globe.'

It is significant to note that James compares the field of ethics to that of physics in maintaining that we are no more

justified in supposing that all our moral demands can be accounted for by one universal kind of motive, than we can suppose that all physical phenomena can be subsumed under one single law, for "the elementary forces in ethics are probably as plural as those of physics."[297] It would appear that Professor James makes no clear distinction between the two orders, that of physics and of ethics.

Now the only identical character which all of the many ideals that have been proposed have in common, is that they are ideals pure and simple. But it must be insisted that no single abstract principle or ideal can ever be employed by the moral philosopher, as a scientifically accurate and genuinely certain measure of truth in the ethical order. This is because such an abstract principle is brain-born, that is, within a mind removed from contact with the real world of experience. To impose it upon individuals would be tyrannical authoritarianism. Men's choice must ultimately come from within themselves, that is, from their feelings of what is right and good. Given Professor James' epistemological viewpoint, this is the only conceivable place from which the ethical or value

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[297] Ibid., p. 201.

judgment could issue. Direct knowledge of outer reality, even if possible, is not an option; furthermore, the outer reality itself is unintelligible.

But there exists another source of perplexity for the moral philosopher in this ethical universe. If in his ethical pursuits he were simply seeking the best imaginable system of goods, his task would be easy, precisely because all demands as such are respectable, and the best possible world would be one in which every demand, great or small, could be gratified, and would be gratified, as soon as it was made. But let us stop to consider the magnitude of this proposed universe, wherein every demand could be gratified. It would be a far different world from the one in which we live. It would have to include all the acts and experiences resultant from individual demands, no matter how incompatable with one another they might be. In short, incompatible demands would have to exist simultaneously, Thus, for example, one should be able to spend one's money and still grow rich; or again, take one's holiday and yet progress with one's work; gain no end of experience and still maintain a youthful freshness of heart; shooting and fishing while doing no harm to beasts, and so forth! Who could deny that this would be an absolutely ideal

system, and if philosophers were capable of creating such systems, it is just this sort of universe which it would be their task to create.

But alas! James insists that we must be realists. Our's is not such a universe, which is but to say that what values shall be regulative, must be resolved in a tragically practical way. We say tragically because that which is possible in this world is much smaller in quantity than all that which is demanded by its occupants. The tragedy is that,

> There is hardly a good which we can imagine except as competing for the possession of the same bit of space and time with some other imagined good.[298]

There is no desirable thing which presents itself for fulfillment that, at the same time, excludes some other desirous end. For example, if a man is to smoke and drink, it is impossible that his nervous system will remain in good condition. Or, in the choice of a spouse, the fulfillment of that desire necessarily involves one choice and the rejection of other possible choices. Tragically, to repeat again, one part of the ideal must be sacrificed, and it is the philosopher's task

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[298] Ibid., p. 202.

to know which part. This is an altogether practical judgment, indeed!

It is utterly practical, and no mere speculative pastime, because in the variety of demands which every man has a right to make, if confusion is to be avoided, a practical system of choice needs to be established.

But the task of the moral philosopher, however, is made further difficult by the historical fact that each of us is born into a society whose moral ideals have largely already been ordered. In short, our environment encourages us not to be philosophers pursuing ethical truths, but rather to become partisans of the choices society has already made, and imposes on us. But as James tells us:

> The Philosopher, however, cannot, so long as he clings to his own ideal of objectivity, rule out any ideal from being heard.[298]

Presumably even there, imposed ideals must have their day in court. He is aware, too, that by simply responding to his own intuitive preferences, the fullness of truth could not possibly be attained. Rather, all of one's dormant revolutionary

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[299]Ibid., p. 203.

instincts are brought to the surface at the thought of any single moralist acting as a pontiff, armed with temporal power, deciding in any concrete case of conflict which good shall be suppressed and which shall be permitted to survive. James says,

> Better chaos forever than an order based on any closet-philosopher's rule, even though he were the most enlightened possible member of his tribe.[300]

Who can claim such power over the exuberant mass of goods which every citizen of this universe seeks and strives to bring to fruition. Confusion and chaos are better than an order of values based on such a legislating-philosopher's rule. If the philosopher is to keep his objective judicial position intact, he must assiduously refuse to become one of the parties who insist that their own good be supreme.

Because everything which is demanded, is by that very fact a good which must be fulfilled, the guiding principle for the moral philosopher must simply be this: <u>to satisfy, at all times, as many demands as is possible</u>. Consequently, the

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[300] <u>Ibid.</u>, p. 204.

'ought' which will always constitute the best act is that one which makes for the best whole, in this sense, that it will awaken the least number of dissatisfactions. Professor James expresses it this way:

> Since victory and defeat there must be, the victory to be philosophically prayed for is that of the more inclusive side - of the side which . . . to some degree do(es) justice to the ideals in which the vanquished party's interests lie.[301]

Thus, even in victory, there should be some degree of generosity extended to those whose desires have had to give way.

Thus, the casuistic principle would be this, that those ideals are to be judged the highest, and therefore to be followed, which precisely can be followed at the least cost, that is, at the expense of the least number of other possible ideals which would have to, in this instance, be destroyed (non-fulfilled). It must be recognized that in this very practical world in which men live, attainment is not possible for all ideals. Some form of compromise is essential where all demands are to be treated equally.

James points out that the course of history itself is

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[301] Ibid., p. 205.

nothing but a record of this continuing struggle that goes on from generation to generation to seek the more and more inclusive order of goods! Hence, the new golden rule is to invent a manner of realizing one's own ideals, which at the same time will also satisfy the greatest number of alien demands. This is the only path in which peace among men and their conflicting ideals will be found. Historically speaking, polyandry, polygamy and slavery, private warfare and liberty to kill, torture, arbitrary use of despotic power, have all given way under the forces of human complaints. While it is true that someone's ideals are, without doubt, suppressed as the consequence of each improvement, still it is true, that a greater number of them find expression in the existing present civilized society than that which obtained in older primitive days. Consequently, the present scale of values can be truly said to be far better, up to this date. In short, there is a continuing amelioration of the human condition. In human evolutionary history, experiments of every kind have established that the existing laws and practices of the land yield the maximum satisfaction to the moral thinkers taken in their totality.

It must therefore be the rule that the presumption in instances of conflict is always on the side of the conventionally recognized good. This is very important, for James is not advocating anarchy as some would think. The moral philosopher, par excellence, should be a 'conservative', and in the construction of his scale of values must place at the top the value judgments that are most in accordance with the customs of the community of men at any given time.

But we must also remember that there is nothing final in any actually given scale of human ideals. Just as conflict and the resulting destruction of adversary claimants brought forth the present laws and customs, so these same ideals shall in their turn be overthrown by newly perceived orders which will still some complaints, but produce others perhaps even louder still. In a word, there is a constant change taking place within the moral scheme, for with the appearance of new individuals come new demands, each insisting upon fulfillment.

Let it always be recalled that rules are made for man and not man for rules. It is true that any man risks a great deal when he violates the established rules and attempts to realize his own inwardly conceived ideals, that is, a larger

ideal whole than that which the established moral order would permit. Yet the moral philosopher must allow that it is at all times open to anyone to make the experiment, providing he does not fear to stake his life and character upon the throw. This is the 'moral hero', who by his venturesome experiments with new behavior, truly advances the moral universe. His role comes about because the establishment of every system of moral rule weighs heavy upon innumerable persons in that it suppresses the goods which they demand, Thus, such individuals are ready for any conflict by which their demands can be set free, in order that they may be fulfilled. The institution of private property, for example, involved many abuses. So much so that there are those who maintain that the sole purpose for the existence of any national government, or at least one of its primary functions, is to help more astute citizens to grow rich and to protect their investments once they have done so. Again, the marriage institution, on the whole so beneficient to many, still brings unnamed and unmentionable sorrow, by its tyranny, both to the married as well as to the unwed.

Thus, everywhere in this moral universe there is strug-

gle and there is pressure, and the eternal problem is how to make both as minimal and inconvenient as possible. Ranged on the one side, we have the anarchist, nihilists, free-lovers, the socialists, the prohibitionists, the anti-vivisectionists, the radicals - Darwinians with their idea of the elimination of the weak; on the other side are ranged all the conservative forces of society opposed to the former. These two groups, through actual experimentation, are endeavoring to decide through what sort of conduct the maximum sort of good can be attained and maintained in this world. Thus, the conflict between them is a beneficial one. There is no 'apriority' (dead abstractions) in these experimentations. There is the actual finding, after the fact of the making of the experiment, how many demands are denied and how many are satisfied! No closet solution here, that is, 'a priori' statements of individual moralists deciding which good shall be denied and which good shall be fulfilled. No such moralist could possibly foresee the results of experiments made on such a grand scale. To quote Professor James, "what can any superficial theorist's judgment be worth, in a world where everyone of hundreds of ideals has it's special champion (moral hero)

already provided in the shape of some genius expressly born to feel it, and to fight to the death in it's behalf."[302] The genuine philosopher must content himself to follow as an observer this spectacle, with hope that the line of least resistance, that is, the choice of ideals that suppress minimally all the other claimants will always result in the richer and more inclusive arrangement. Thus, as Professor James says: "the progress toward the kingdom of heaven will continuously be made."[303]

Parenthetically, we should note how similar the method of verification is to that which the scientist uses in establishing the validity of his physical hypotheses. There is a difference of course, in that the ethical order demands as a norm of veracity the satisfaction of the greatest number of demands. By way of contrast, in the realm of science it is workability which determines the true theory. But both are similar in that the reference is to the outer world. In any event, operability of some kind is involved in both, and so the pragmatic rule obtains.

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[302] Ibid., p. 207. [303] Ibid., p. 208.

By way of summary therefore, ethical science is comparable to physical science, and far from the former (ethics) being deducible in one stroke from abstract principles and concepts, it too must bide it's time, just as physical science does, and be ready to revise its conclusions on a day to day basis.

Both sciences presume of course, that the readily accepted opinions are true, and that the right order of things and of values is that which the public accepts and believes in. In the face of this it would be audacious and full of folly to strike out on one's own and to aim at originality either in physics or in ethics. But every now and then a thinker is born that has the right to be original, and his audacity in proposing revolutionary thought or action does bring forth prosperous fruit. This is the moral hero - par excellence. He replaces old 'laws of nature' by still better ones; breaking old moral rules in one place, he brings about a total condition much more ideal than had he simply followed the accepted rules. Consequently, in the light of what has been said, it is evident that no philosophy of ethics is possible in the traditional-rationalistic sense, that is,

the absolutistic sense of ultimate norms and an unchangeable 'natural law'.

This means that the ethical philosopher must wait on the facts as they are acted out by moral agents. Thinkers will come "who create the ideals (coming) he knows not how."[304] But he (the moral philosopher) must wait to see which of the conflicting ideals will give the best universe, and this will be determined from the experience of these acting men.

Let it be re-iterated again that there are no absolute evils and by the same token, there are no non-moral goods. Furthermore, the highest ethical life, despite the fact that few are called to bear its burden, consists essentially in this, namely, to break those moral rules which have become outgrown to fit the actual case here and now. James says

> There is but one unconditional commandment, which is that we should seek incessantly with fear and trembling, so to vote and to act as to bring about the very largest total universe of good which we see.[305]

Abstract rules may be of some assistance in this matter, but their utility becomes less and less, insofar as

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[304] Ibid. [305] Ibid., p. 209.

one's personal intuitions are more penetrating and one's vocation is to advance the moral life of the universe (the moral hero).

Every situation involving choice is a real dilemma and it is, strictly speaking, a unique situation without precedent and no previous rules to guide in the choice to be made. If each decision (choice) is without precedent, then every individual man becomes a builder of the moral universe, each making his own particular contribution to a universe wherein peace midst all the confusion of conflicting demands can and should be finally attained.

The philosopher as philosopher is no better equipped to determine which shall be the better universe in any concrete emergency than his fellow men. Everyone must make his <u>own</u> choice feelingly. To be sure, the philosopher may see somewhat better what the real question always is; that it is not simply a question of this good or that good taken in themselves. But rather that it is a question of two totally different universes within which these goods respectively belong. The moral philosopher knows the rules, that he must always opt for that richer universe; for the good which seems

the better organizable, the better liable to 'fit' into the complex combinations of goods already available. Finally and most importantly, he knows which good is most suitable to be a member of the more inclusive whole. Which universe this shall be of the two that are possible, the moral philosopher cannot know in advance. He knows for certain that if the wrong choice is made, the cries of those whose demands are not met will soon let him know of the fact. This is but to say that the philosopher enjoys no 'prevision' in this entirely human experiential affair. Like all non-philosophers, he must be just and sympathetic and open to the voice of complaint.

He may be fully conversant with ethical treatises, which are both voluminous and luminous, but all such literature is admittedly tentative and suggestive of past decisions, rather than being a dogmatic norm for future action. In a word, these treatises can never be final. Indeed, they should more and more, according to James "abandon the old-fashioned, clear-cut and would-be 'scientific' form."[306]

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[306] Ibid., p. 210.

The principle and chief reason why concrete practical ethics cannot be final is that it must wait on metaphysical and theological beliefs. This necessitates some explanation.

It will be recalled that it was stated some while back, that real ethical relations could be found in a purely human universe. It was pointed out that these relations would exist even in a moral solitude, as long as the thinker had ideals which took hold of him from day to day. His demands would differ from day to day, so that some might be urgent and tyrannical; others gentle and easily thwarted. The tyrannical demands would be the imperative ones; to ignore them would result in feelings of compunction and regret. Thus it is obvious that obligations can exist even inside a single thinker's consciousness, and he can be at peace with himself only insofar as he lives by some sort of casuistic scale, that is, a self-established hierarchical scale of values in which the imperative demands were placed at the top. These imperatives can be said to be merciless in the manner in which they call forth from us sacrifices in order that they be fulfilled.

Now in the moral life of man practically speaking, there are two easily distinguishable moods - the easy-going and the strenuous. In the easy-going mood, the turning away from present evil is the ruling factor. The strenuous mood on the other hand, makes us indifferent to present evil, if only the greater good, that is moral ideal, be obtainable. Now this capacity for the strenuous mood lies dormant in every man. But in some men it's arousal is extremely difficult, if not impossible. In these it requires the wilder passions to bring forth the strenuous mood; such are the large fears and loves and indignations; or the deeply 'felt' appeal of some of the higher loyalties, such as justice, the sense of truth and freedom. In the solitary moral thinker, the strenuous mood would remain dormant forever. His various ideals are on an equal footing in terms of their motivating value. Thus, in a human world without a God, appeals to moral energy never quite achieve maximal stimulating efficacy. In such a human world, nevertheless, ethics still obtains, but the choices never really seem monumental or pressing.

But how different it is when we believe that there is a God, and that he is one of the claimants in our moral life.

In this situation infinite and mysterious perspectives are thrust open. As James so well states it:

> . . . the more imperative ideals now begin to speak with an altogether new objectivity and significance, and to utter a penetrating, shattering, tragically challenging note of appeal.[307]

Voila, at last the strenuous mood is now awakened with these emotion-stirring 'ideas'. Here we have the emotions reverberating because of the stimulating, brain-born idea.

This capacity for the strenuous mood is so deeply imbedded within human nature that, even lacking metaphysical demonstration, and rejecting the traditional grounds on which to found the existence of God, it is certain that men would postulate one simply as a pretext for strenuous living, in order to wrest from existence its keenest zest. Contrast how different men's attitudes toward evil is in a world peopled by only finite demanders. They are tolerant of it. But this is not the case where there is an Infinite Demander. In a divinely created universe, men gladly risk life and all for such a demander's claim. "Every sort of energy and

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[307] Ibid., p. 212.

endurance, of courage and capacity for handling life's evils, is set free in those who have religious faith."[308] It is for this reason that the strenuous type of character will, on the battlefield of human history, always outlast the easy-going type, and religion will drive irreligion to the wall.

We can conclude, therefore, that the divine thinker, who has all-enveloping demands, seems necessary, if the stable and systematic moral universe for which the ethical philosopher seeks, is to be brought about.[309] In such a system the divine thinker's ways of subordinating demands would be the foundation for an ultimate and valid hierarchical scale of values. It is therefore in our best interests, namely, the ideal of a systematically unified moral truth, that would-be philosophers postulate a divine thinker and pray for the ultimate victory of the religious cause. The postulating of such a divine thinker will serve practically to let loose in us the strenuous mood, that mood which gives so much more meaning and zest to living.

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[308] Ibid., p. 213. [309] Appendix B enlarges on the significance of religion in James' philosophical system.

But even though we be sure of the existence of this infinite thinker, it must be frankly admitted that his thoughts are not known to us. Hence there is only practical utility in that <u>will to believe</u> in the existence of a divine being. As James says:

> The solving word for the learned and the unlearned man alike, lies in the last resort in the dumb willingness and dumb unwillingness of their interior characters and nowhere else.[310]

More briefly stated, after all is said and done, be there a God in heaven or not, our ethical choices must come from within our emotional nature. For "it is not in heaven, neither is it beyond the sea, but the word is very nigh unto thee, in thy mouth and in thy heart; that thou mayest do it."[311]

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[310] William James, <u>Pragmatism</u>, p. 215. [311] <u>Ibid.</u>

CHAPTER X

CONCLUSIONS

After spending long and many hours in studying the very involved thought of William James; moreover, during the six months devoted to the writing of this dissertation, a period of time that occasioned much reflection on the topic of the dissertation, it was almost inevitable that a larger historical perspective should suggest itself as the only way in which to do justice to the monumental task that James undertook in behalf of philosophy. That task was nothing less than a vindication for philosophical speculation in an era that was becoming increasingly scientific in method and materialistic in its world-view.

As we have seen in the first chapters of this thesis, no man could have been better equipped to undertake the work and to succeed in it. He was a highly trained scientist himself and very much to the forefront of what was happening on the Continent of Europe, where the new sciences were being born. Thanks to his father's deep, if intellectually obscure, religious commitment, he felt a burning need for the spiritual

dimension which he knew science could never succeed in obliterating. Life was too tragic in its very living and in its inevitable end to be endured without any hope. It was religion which provided that meaning and zest that made life worthwhile. (But, as has also been noted, religion for James did not mean any of the highly institutionalized and dogmatic varieties). Religion was but the moral assurance that one's personal struggle with evil in the world was meaningful. And it was the task of philosophy to justify this religious conviction.

But even these two attitudes toward reality - the scientific and the religious - seem to imply a tension which could easily rupture into open conflict. I am not suggesting that there exists an inevitable contradictoriness between these two views, so that a scientist could not be a religious man or conversely. James himself was an outstanding example of their successful combinations in one human being. No! I am rather proposing that science and religion, or better philosophy, which justifies religious belief in James' view, as branches of human knowledge, since they involve different methodologies and reasonings, seem naturally antagonistic. On this point, we need only recall that James saw two possibilities with

respect to the future of metaphysics: either it must adopt the verification method of empirical science, or possibly science may so solve all of its problems that as a separate body of knowledge it would need no further existence. This attitude certainly indicated how strong were his prejudices with respect to science.

But in my opinion there was a more compelling force whose influence did not augur well for the outcome of his life's work to reconcile science and religion. It was the force of an idea proposed by Rene Descartes in the seventeenth century, an idea neatly expressed in the Latin phrase, "Cogito, ergo sum". It announced at once the severance of two principles in man, whose unity had so painfully and laboriously been achieved during the Greek period of Western philosophical thought.

Everyone would agree that Descartes' motives were of the highest order, namely, to be able to convince even the most virulent sceptic that a Divine Being exists, and he most surely could not have foreseen the consequences of his acts, but the deed was done and what remained was only 'to reap the whirlwind'.

The history of that idea from its inception to the middle of the nineteenth century, when James began his intellectual formation, is too well known to need any further delineation here. Suffice it to say, that the dichotomy between body and mind gave rise to the great modern philosophical schools of idealism and the various sects of empiricism.

The justly celebrated Immanuel Kant made a valiant, but unsuccessful attempt in the eighteenth century to reunite these principles under the transcendental unity of the ego. He was doomed to failure from the start because he wished to satisfy both camps, and in so doing he only served to underscore the division in man all the more. The radical idealism of Hegel and the rapidly expanding use of the very successful experiment-verification method that was creating new branches of knowledge in the nineteenth century, were witness to the widening impasse between the 'separatist' schools.

We have seen in our earlier chapters the history of this mind-body controversy as it existed in the nineteenth century. Here I wish only to point out the two consequences that this Cartesian dichotomy had which are of relevance to

this dissertation. The first is this: that the separation between body and mind was and is the foundation for the conflict between the empirical sciences on the one hand, and the humanities (including philosophy) on the other. This conflict loomed already large on the horizon in James' day, and he openly attacked it, accusing his scientific confreres of the same dogmatism that they opposed in the philosophers and theologians. Of the present state of this controversy, especially as it affects the teaching of philosophy and particularly ethics, we shall presently have more to say.

The second consequence of the dichotomy was the effect that it had on the thought of William James. In fact, one could say that it moulded that thought. It is central to every theme that is discussed in his very articulate and successful Principles of Psychology. Since this is James' principle work, one which indicates the outlines of all his succeeding works, it is possible to conclude that the body-mind duality was paramount in his mind. Let us then see just how this body-mind separation influenced his thought.

We pointed out in the first chapter that the beginning of the nineteenth century witnessed the very first

manifestations of the new physiological psychology with the work that was being done in brain physiology, especially by Muller, Rolando and Flourens. These men had the audacity to demonstrate that the mind's activities were capable of quantified measurement. It was this view that prepared the way for the radical materialism that was to mark the rest of the nineteenth century.

James, as we have seen, was formed in the spirit of the new sciences, with all their emphasis on experimentation and verification. Moreover, he was convinced that this was the only method that could validly be applied to the study of man. Hence, his predilection for the new physiological-psychology for whose introduction to the new world he was largely responsible.

In any psychology, whether it be of the rationalistic type or that of the physiological type, an understanding of the human activity of knowing in terms of its operations is extremely important, since man in any viewpoint is a cognitive animal.

Now if man is a duality composed of two discrete principles, the important work for any psychologist is to

explain how knowledge takes place in such a divided being. The problem is further complicated by the fact that there, in fact, exists in man two very distinct kinds of knowledge: that which is evidently from the outside and is concerned with empirically ascertainable facts; and the other kind of knowledge, abstract and relational, which in no sense of the word can be said to be derived from experience-sensation. We have seen how Professor James solved the problem of the origin of the latter. It was, in a word, a brain-born type of knowledge; that is, it resulted from the very structure of the mind. This structure consisted of very labile brain tissue in which 'incidental complications' occur and which give rise to ideas. Here we clearly can see how mind and body are causally related in this activity of 'idea' production. But the significant point is that the ideas in this instance do not come from the outside. The mind is effectively cut-off from the world of experience. The dichotomy then holds fast.

In the instance of the production of ideas of perception, that is, those occasioned by sensorial stimuli, the problem remains, namely, how to make the mind know. This is a problem because in James' view, knowledge which the mind

obtains is not representational; there is no direct contact between the mind and the object that it perceives, such as that which the traditional psychology maintained. The problem then is to explain how we have ideas in the mind that correspond to outer realities, realities with which we seem able to deal. Let it be recalled that James as a reputable physiologist accepted the then current theory of the reflex-arc, a theory which we discussed earlier in this dissertation. Now I believe that it was this theory which gave him the clue by which to establish cognitive contact between the body and the mind. That clue was 'feelings'. As has already been noted, James not only restored feeling to respectability, but argued that it was <u>essential</u> to cognition.

Now what are feelings if nothing else than emotions. The result was the famous but very controversial James-Lange theory of the emotions. Despite the vocal criticism, moreover, despite the fact that the theory went so hard against common-sense opinion, James held it steadfastly. He could not do otherwise, for in his psychology of knowing, it was the one and only means by which interaction between mind and body could be explained. These feelings were, to be sure, dumb

since they told us little about the object causing the stimulus, but at least they did come from the outside, which meant that the mind could at least believe that there were outer realities.

This then should explain the central role for feelings or emotions. Their organic reverberations resulting from some stimulus produced a feeling within the mind. Although, in the mind, the feeling is better denominated 'idea'. Let the reader recall that for Professor James, 'feeling' and 'idea' were interchangeable terms. Concerning the brain-born feelings (knowledges), these too produced reverberations down below, so that they too were felt and as such cognitive. James called these the subtler emotions because of the difference in bodily location for their origin. But it should be remembered how he argued that these were not some kind of spiritual entity, differing totally from the coarser emotions. No! these too produced organic changes. For how else should they be known. Repeated experiences may mute these organic changes, but originally they had to exist.

Our moral judgments were among these subtler emotions, which meant that they were brain-born and came to be known,

that is, felt by means of the organic reverberations. Hence, our conclusion that the physiological theory of the emotions did function in a cognitive way with respect to moral principles, or to use the better expression, as feeling states they gave rise to value judgments or choices which, as we have seen, are unique for every being that inhabits this globe. In such a situation the traditional role of the moral philosopher is completely overturned. Instead of concerning himself with the task of establishing the objective norms by which moral choices can be guided and judged, he now becomes an evaluator of which values proposed by these moral agents shall obtain. His rule is ultimately a very practical one, which it must be, namely, that that moral demand should be given priority which reduces to the least minimal degree possible the number of other demands that cannot be fulfilled. But we have treated this matter in detail in the last chapter. Here we would only reiterate that physiology, emotion-feeling and moral choices based on these are all intimately connected. What we feel 'with a glow', as James was wont to say, we react upon. In fact, it was an essential feature of his psychology that emotion, being organic and sensory in its nature, was an unnatural

terminus of mind. A completed cycle of conscious life had to terminate in action - the reflex-arc; for feelings that were merely enjoyed lead to the atrophy of will.

One further observation, the dumbness of these feelings necessitated the concept of truth which Pragmatism involved. If it was only possible to know outer-realities in this indirect way, and given this duality between body reverberations and mind feeling, how could one be certain of any correspondence between object-known and knower. The inevitable reply is through successful operability. Thus, if the feeling-idea is productive of results, it is true. Is this not the way science, in James' day and in our own, operate?

One needs only to read the history of scientific successes since James' day down to our own to fully understand why it is so honored and readily acknowledged as man's ultimate savior. This is partially why James said that metaphysics needed to adopt the method of science if it were to become a respected member again among the branches of human knowledge. But then again, he seemed to vacilate on this point, for he also suggested that as science solved metaphysic's problems one by one, that branch of knowledge would cease to exist. But

every great mind is permitted some incongruities. One final personal comment concerning William James is this, that given the presuppositions which were his historical heritage, he did remarkably well in constructing as coherent a philosophical system as he did. For the writer, it has been an altogether stimulating and profitable experience to have objectively and sympathetically studied his thought.

This latter point, concerning James' vacilation about the relationship of science and metaphysics, however, suggests a final conclusion that the work on this dissertation has prompted, and this concerns two points: first, the contemporary conflict between science and philosophy, and second, the difficulties of teaching an objective ethics in an environment that is often openly hostile to it.

With respect to the first point, the conflict between science and philosophy is ultimately due to the Cartesian dichotomy. This is so, because on the basis of the separation, two distinct methodologies dealing with distinct objects have arisen. Permit me to explain. The mind, considered in itself and as distinct from the body, when it exercises its primary function which is cognition, attains its object by way of

introspection (ideas) and submits these to analysis whereby relations, which most often have no correspondence in the outer world, are discovered. This latter fact means that ultimately speaking, there is no verifiability with respect to these knowledges. They are, in short, pure concepts which give rise to such knowledges as metaphysics, abstract ethical systems, theologies or, as James terms them in the Varieties of Religious Experience, over-beliefs. The significant fact is that these knowledges have no bearing on facts. They may be valid for the person experiencing them as, for instance, poetic and aesthetic insights may give unsurpassed pleasure for the one who feels these insights. But what does it tell us of the real world.

Yet it is with this world that the scientist deals. This is the other side of the dichotomy, namely, the body. The body senses by means of its end-organs. Through perceptions this gross reality can be measured, can be moulded and dealt with successfully. It must be noted that the moulding results from the basic plasticity of matter, containing atoms and molecules whose arrangements can be altered, as well as their very internal structure transformed. In this way then, man

can be said to be structuring the outer reality to conform to his mentally conceived frameworks. But the essential point of difference between the knowing mind and sensing body consists in the type of object with which they deal and what it does to it. Briefly stated, metaphysics bakes no bread; science(s) enable man to deal practically and satisfactorily with an outer reality that is basically hostile to man, as Darwin so clearly demonstrated.

Given this disparateness with respect to the kinds of knowledge that emanate from body and mind, I believe it should be clear that only conflict can exist between them. A rapprochement is possible only if the unity of man is once more affirmed, so that though there be two distinct types of entitative principles within man, yet both are mediated through the consciousness of the ego which knows that it both senses and understands one and the same outer reality. Perhaps such a mediating view of body and mind is impossible of demonstration, which of course then means, that it may or may not be true. But what be the difference; the only rule should be, as Professor James suggested, will it bring about better results by being true. Undoubtedly it would, for it would end the

meaningless effort by both parties to the dispute to demean each other. And who can deny that it is a hoped for consummation that peace would exist between both the proponents of science and metaphysics. It cannot be denied that there will always exist extremists in either group - those who raise their respective opinions to the dignity and status of dogmas. Unfortunately, that 'genre' will always be a part, for better or worse, of the human caravan. But the more temperate of passion should be able to agree to less dogmatism and more compromise. But one thing is certainly sure, the metaphysical and moral aspects of man's sensibility or nature can never be eradicated.

This suggests a somewhat similar practical,solution to the matter of teaching ethics to students steeped in the scientific methodology and attitude, with respect to concrete facts. (Who can deny that human choices involve concrete facts?) In this instance too, I think that we cannot hope to succeed if we begin with the concept of an abstract moral order, or Natural Law, or even the existence of Deity. Any of these concepts are just meaningless prattle to the contemporary student of science. This fact may be bemoaned, but I believe that

we must be realists and accept the temper of the times for what they are. The situation could be otherwise where one had ample time to give the student deep insights into the history of philosophy and thus show him how the present impasse has been reached. But here too realism makes us aware of how limited one's time actually is. No: I think Professor James is right when he insists that we must begin with 'feelings' in ethics. By this I mean that all men have appetites whose activity they always feel in varying degrees. The moral life as Aristotle conceived it, at least in a good part, consists in the virtuous life, so that the moral man is one who curbs his appetites by means of the Cardinal virtues. The advantage here gained with this approach to the student of science is that he too is a man who possesses these appetitive drives which more often than not are a source of unhappiness for him. Thus his happiness in part at least, can be shown to involve his concrete factual choices, and this would be an application of the verification process used in science. For it is through experience that we come to acquire either virtue and vice. And surely, our first choices are not always the best. We must learn which are best (which will work to bring happiness). He

can thus be convinced that, as Aristotle maintained, the best guarantee for the happy life is the pursuit of virtue. I found that a great number of science students responded to this approach. I think that if we can achieve this modest goal for the moment, then much good would result, and it would serve to carry us over to that day when the far greater problem of man's unity would be solved. But until that day comes we must avoid abstractions, pure concepts and principles, for most assuredly we shall not be heard.

The continued reputation and success of the Analytic Philosophers (at least in their continued control of philosophy departments in universities on the American continent) is only ascribable to their concentration on semantics and their further decision to leave the world's interpretation to the scientists. It may not be a very holy alliance that they have achieved with science, but it has been a successful one.

I should like to bring this matter to a close with a very concrete example of the sorry state in which philosophy and the humanities actually exist today.

With the United States involved in that very complex situation in the Southeast Asia which has come to be known

simply as 'Vietnam', there is an ever increasing need for young manpower upon whom the actual burden of fighting has to be placed. But a very unjust situation has developed in the call-up of these youths, in that those who are able to afford university education even beyond the bachelor's degree, have thereby been able to secure deferments for such a length of time that they effectively manage to escape the obligation to serve.

A Presidential committee appointed recently to study the situation and to bring forth recommendations that would result in some 'equity' in this matter, finally recommended that the public interest would best be served by confining deferments to graduate students in the natural sciences, mathematics, engineering and health. Students pursuing higher studies in the humanities and the social sciences were not to be exempted. In a word, the latter would not serve the public interest. The mental attitudes that are responsible for such decisions at such high levels of government bode no happy future for philosophy.

APPENDIX A

APPENDIX A

ADDITIONAL COMMENT ON THE GENERAL INFLUENCE OF SCIENCE ON WILLIAM JAMES

In the year 1861, the same year in which James began his university studies at the Lawrence Scientific School attached to Harvard, the conflict between science and religion was at its height. Two very important scientific theories had so heightened the prestige of science at the expense of religion, that the latter seemed destined for the junk pile. Darwin's Origin of Species appeared in print in 1859, and at about the same time, the Principle of the Conservation of Energy, although first proposed some twenty years before, had at this time received general acceptance. The consequences for religion were the downgrading of man from the special and lofty heights to which the religious view had raised him as, namely, a 'special creation of God'. The proponents of the Darwinian hypothesis maintained that it disproved once and for all, the 'special creation' myth; and the conservation of energy adherents insisted that it disproved the possession by man of special spiritual capacities such as thought, will, and spirit (soul). This latter view assumes that the brain is part of the physical world and that the physical world is a closed system. The dis-

covery of the mechanical equivalent of heat by Joule in 1849 and the realization that any work done on a body can be stored as 'potential energy' and given out as work done by the body, tended to fix attention on the serial nature of cause and effect, and most importantly, their equivalence in terms of energy. Scientists came to believe in chains of causes and effects, series in which any event is the effect of the preceding one and the cause of the succeeding one, and in which all events are equal in energy. A sheer materialism which reduces mind to nothing but a source of electrical energy.

As Science became more truculent and militant, religion became more hostile to this atmosphere of disbelief, which seemed bent on destroying the religious notion of man once and for all. And so the battle lines were set.

From the new and highly successful science, there arose the philosophy which has become known by several names, 'naturalism', 'agnosticism', 'positivism', 'scepticism', or finally, 'materialism'. This science-born philosophy was immediately characterized by its arrogance and agressiveness.

Religion, on the other hand, was defended by the Protestant and Catholic theological systems, as well as by the

traditional metaphysics of the 'theistic' type. There was also some intellectual support provided by two philosophical schools which were active at the beginning of the nineteenth century. These were the Scottish school of 'common sense' and the German idealistic school, originated by Immanuel Kant and ended with Hegel. By the year 1861, both of these schools were of little influence.

The Scottish school tried to answer the sceptical challenge of David Hume. The leaders of the school were Thomas Reid, Douglas Stewart and Thomas Brown. They tried to save the philosophy of experience, but instead received ridicule for their acceptance of 'Suggestion', 'common sense', 'the primary elements of human reason', or 'intuitive beliefs', as the ground and foundation of all knowledge. In fact, they seemed to have rejected the strict empirical method of David Hume, and substituted instead these meaningless fictions. Their disciples, like Hamilton in Scotland, Victor Cousin in France, and James McCosh in America became eclectics. The school lacked the systematic and critical spirit necessary for a dynamic school of thought. To be sure, it enjoyed a wide popular influence, but it never attracted first-rate minds after

John Stuart Mill's attack on Hamilton in 1865.

The Idealistic Movement, begun by Kant and including Fichte, Schelling, Hegel, and Schleiermacher, came to an end upon the death of Schopenhauer in 1860. In the country of its origin, Germany, it disappeared as an influential system very quickly, and in other countries it never seemed to have really caught on. The most effective exponents of idealism were men of literature, such as Wordsworth, Coleridge, Carlyle and Emerson. But with these literary figures, the movement became blended with Platonic thought, the romantic movement then flourishing in art and letters, and finally with the general spirit of German culture.

Thus, the European thought of the 19th century was singularly helpless against the new philosophies which were arising from the new science. In Germany, Strauss, Feuerbach, and Karl Marx were developing 'materialism' from the Hegelian premises. Moleschott, Buchner, and Haeckel were announcing the new 'naturalism' and were being very well received.

In France, the positivism of Auguste Comte was at the height of its success and was being continuously propagated by Taine and Renan.

In England, the 'Synthetic' philosophy of Herbert Spencer was proclaimed in 1860. Spencer was perhaps the best philosophical exponent of Darwin's evolutionism. Darwin's teachings were also being broadcast by Huxley and Tyndall.

William James, faced with this intellectual ferment which was taking place in 1861, could have taken one of these alternatives: join the naturalists and preach the gospel of positivism, or evolution. His biological orientation might have inclined him in this path. But the religious interest which had also been implanted early in his life, precluded such a choice. There was as well his critical awareness of the limitations of scientific knowledge. The other alternative was to join the camp of religion. But it was this same scientific orientation which did not permit him to acquiesce to authority, dogma, sentimental piety, transcendentalism, blind optimism, etc.

But two choices remained open to him. Kantian idealism, which had no recognized following in the United States, was on the verge of a vigorous revival in three countries, namely, France, England, and America.

In France, Charles Renouvier began the publication of

his Critique Generale in 1854. In 1867, Ravaisson published his famous Rapport, which occasioned a very powerful idealistic opposition to both positivism and eclecticism. We have already seen the tremendous influence which Renouvier had exercised on William James, Ravaisson had little such influence.

In England, Hutchinson Sterling's Secret of Hegel made its appearance in 1865; in America, William T. Harris began his translation and publication of Hegel's works in his Journal of Speculative Philosophy (1861). These beginners of the revival of German idealism were to be followed by Edward Caird, T.H. Green, and F.H. Bradley in England, and in the United States by Josiah Royce and G. H. Howison. Some of these men were James' personal friends; yet all of them were his philosophical adversaries. For example, his writings abound with critical references to Royce's philosophy, who was a cherished and trusted Harvard colleague.

Nor did James derive philosophical nurture from the revivals of Kantianism and Hegelianism in Germany. He turned rather to men like Fechner and Lotze who, like himself, were trained in science and inclined to an empirical method in philosophy. Thus, idealism was not the way for William

James. James found his intellectual home with the British empiricists.

The philosophy of John Locke and David Hume was kept alive by the Scottish School, the Utilitarians and the Associationists. It received a new impetus with the writings of John Stuart Mill. But when James appeared on the scene, the empiricist tradition was in an ignoble state. It suffered heavily from the skepticism of David Hume and seemed about ready for absorption with the sweeping flow of naturalism. It was with this group that James threw in his lot and began to make his own philosophical way.

Any complete analysis of William James' philosophical activity must also include three prepossessions with which he began his philosophical journey. They arise from his hereditary cast of mind, his earliest experiences, and lastly, the condition of his own health.

The first of these is his undoubted moralism. He could never feel at home with a philosophy which did not take into account the human will and its ability to choose. His second prejudice, if such it may be called, was his preoccupation

with variety and change. These were the intellectual counterparts to his very restless disposition. He found sameness and routine boring and intolerable. This trait alone would seem to close him off permanently from the rationalistic types of philosophy which emphasize so greatly identity and permanence.

There was lastly, his artistic sensibility. He was possessed of exquisite taste and creative impulse. These artistic qualities caused him to reject verbalism and abstractness. Thus, any philosophy that rejected or minimized the importance of the concrete realities could not possibly appeal to him. For him feeling and sensation were the most important cognitive functions and these he viewed as transcending the intellect itself.

The earliest external influences that influenced James' thought were the religious experiences of his father, the humanistic interests which arose from his extensive reading in literature, his avid interest in painting, and finally the scientific training that marked his education at Harvard, and influenced as well his early career as a teacher at the same center of learning. Enough has been said of the first and second influence. It is this last factor, the scientific in-

fluence which here needs some amplification.

That his choice in philosophy should have been empiricism was due largely to his scientific training and the influence of three men whom he held in great esteem. They were Agassiz, Jeffries Wyman and Charles Darwin. It was the methodology of science which James found so agreeable. The scientist employed observation and experimentation, which meant, of course, that he was in constant contact with the real, that is, sensed real. In terms of scientific theory, which was essentially a hypothesis, there was also a return to perceptual experience for verification. The cognitive merit in no way derived from its intrinsic form, but from this vital contact with the flux. It was this method of procedure, always in contact with the real, that lead James into the empiricist camp.

The content of scientific knowledge as well influenced William James in his philosophical development. At the point at which he began his career as teacher, the biological sciences were in ascendancy, dictating through the conception of evolution, the general outlines of cosmological belief. It is a matter of historical record the numerous and violent disputes

that evolution caused to erupt between science and religion. It was inevitable that William James, whose own early training was in biology, should have found himself engulfed with these controversies.

At Harvard in the academic year 1872-1873 and from 1874 to 1879, William James gave the course on "Comparative Anatomy and Physiology". The contents of these courses, as evidenced by his notes, clearly show that James used the comparative anatomy, which was given in the first half-year, to demonstrate the truth of evolution, and the physiology in the second half-year as the introduction to psychology. Darwin's influence, as has already been noted, was profound. James considered him a model for all scientists. But he also liked Darwin's ideas since they permeate the Principles of Psychology. In fact, James' conception of the origin of the 'a priori' factors in human knowledge was but an application of the Darwinian notion of spontaneous or accidental variation. It was also the influence that caused James to view life as an essentially hazardous journey for man. He did not agree with Darwin that nature never makes any leaps, since he felt that the human individual was a composite of just such abrupt differences from

other beings. As James saw it, the essence of Darwin's whole theory was this, that whether individual variations are great or small, they survive or disappear as the environment commands. Thus, the individual nominates, the environment chooses.

Another consequence of his scientific bias was his susceptibility to the influences of the naturalistic school. This school was, in the 1860's, having great success in its efforts to substitute the findings of science as well as the methods of science for those of the traditional metaphysics. Though he never became a definite adherent of this school, he found it in close propinquity to his own scientific studies, so that naturalism did have the effect of deepening his sense of the conflict between science and religion. He found in his readings of Buchner, that this author's arguments of unified matter and force were more than adequate for establishing the self-sufficiency of the world. From this point on, he rejected the causal argument for the existence of God. And so the traditional theism could hold no appeal for him. But until he was able to find some kind of a 'saving' philosophy, he would remain vulnerable to naturalistic arguments. It was not until

the crisis of 1870, and the reading of Charles Renouvier that he would be able to think and believe his way out of the closed tunnel of naturalism. He wrote to his father from Berlin in 1867 in the following prophetic way:

> I feel myself . . . more and more drifting towards the sensationalism closed in by scepticism - but the scepticism will keep bursting out in the very midst of it, too, from time to time; so that I cannot help thinking I may one day get a glimpse of things through the ontological window. At present it is walled up.[312]

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[312] Cited in Perry, The Thought and Character of William James, Vol. I, p. 471.

APPENDIX B

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WILLIAM JAMES AS AN EMPIRICIST

The reconciliation of philosophy and religion as William James saw it could only come about with the assistance of a 'philosophy of experience'. He called this philosophy "empiricism". He certainly upheld the school that gave rise to this doctrine concerning knowledge - Locke, Hume, Berkeley- but he was also convinced that their doctrine had to be thoroughly renovated.

Empiricism may be generically defined as the doctrine which maintains that the truth of knowledge depends ultimately on the contingent existence of that which is claimed to be known. Thus, for example, if one judges that crows are black, this statement will be true once a black crow presents itself. Thus, the appearance of the fact is the verification of the judgment. It is the characteristic of empiricism to regard existence as a simple 'datum'. It is the function of knowledge to lead us up to this finality, the existent, - and leave the knower there. It is only faith that can take us beyond. William James says on this point:

> The bottom of being is left logically opaque to us, a datum in the strict sense of the word, something which we simply come upon and find, and about which (if we wish to act) we should pause and wonder as little as possible. In this confession lies the lasting truth of empiricism.[313]

According to empiricism, knowledge is made true by the mind submitting itself to reality. This can, however, be done in two ways: some empiricists like James, stress experimentation, so that it is the knowing mind which submits its ideas to reality and these are either accepted or rejected in terms of their workability; other empiricists, stress psychogenesis, according to which the mind is purely passive, and knowledge is like a sedimentary deposit. In either case, the important thing is that knowledge is ultimately submitted to existent data. This means that knowledge is always subject to correction. As James explains it:

> The empiricist allows for a possible correction in the future; the rationalist makes his system a closed system. He translates the world into his system, and then sits down on it and refuses to be dislodged.[314]

Now if knowledge is to be verified, it is necessary

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[313] Cited in Perry, The Thought and Character of William James, Vol. I, p. 452.

[314] Ibid.

that existence be recorded or registered in the knowing mind. The existent, in short, must make itself known. The human faculty through which this contact or awareness is made is sense perception. And it is the stress which 'empiricists' place on sensation that causes some people to define empiricism in terms of sense perception. For empiricism it is through sensation that the mind is conformed, as it were, to the existential course of events. The senses are like ports of entry, through which the mind receives from abroad; or they can be conceived as 'antennae', by which the contour and the behavior of the exterior environment are met and measured by the exploring (cognitive) organism.

The cognitive theory that empiricism holds with respect to the real is often referred to as the 'a posteriori' theory of existential knowledge. With James there is a very important qualification in this theory which amounts to this: the mind itself <u>initiates the ideas</u> to which this 'a posteriori' test is applied. It then refers these to the real for acceptance or rejection. James,' theory can therefore be termed the 'experimental' theory of existential knowledge. There are two further tenets of his corrected empiricism, namely, a) the

voluntaristic or fideistic theory of belief, and the experiential or intuitive theory of reality.

Thus, William James' empiricism embraces three fundamental characteristics: experimentalism, voluntarism, and experientialism. Let us briefly look at each of these.

The experimental theory of knowledge consists of the view that mind initiates ideas about existence which it then submits or refers to existence, (the outer reality), where these ideas are accepted or rejected. In this procedure truth is attained. One could express it this way: the mind proposes, reality disposes. James made unrelenting attacks on the rationalists for their epistemological view that the mind is sheer receptivity with respect to the external world. For him, the mind is interested and it is inventive; it makes its reality in this sense, namely, making it intelligible through the imposition of mental frameworks (the abstract systems) upon the 'data' arriving by way of the senses. The mind is influenced with respect to what sort of hypotheses (mental frameworks) it shall try by an inherent and hereditary bias. Antecedent experiences will also influence these cognitive projections of the mind. The important experiences are those

which will either verify or falsify these cognitive projections. Thus all mental judgments are on trial, which means that they need verification. This need for verification is applicable to the judgments of science, common sense, religion and metaphysics. A philosophy is empirical, according to James, when it is willing that its most certain conclusions concerning matters of fact (experience) are considered to be only hypotheses, ever liable to modification or rejection in the course of future experience. Thus concepts of whatever kind are, both with respect to their meaning and in their use, always subordinate to the direct perception of fact.

James' voluntarism is perfectly consistent with his empiricism. It has just been indicated that the inquiring mind is inventive, which means that it submits proposals (ideas) to the test of reality, but the knower chooses the ideas that are to be submitted and this is the result of an act of the will. Thus, boldness of hypothesis and theoretical inventiveness are the order of the day. In this instance James is influenced by the then evolving scientific method, whereby elaborate theories were constructed to explain the observed phenomena. The theories are said to be true insofar

as they work. In his general theory of knowledge James insists on the point that the mind is not only active, but it is interested as well, meaning that it tries what it hopes is true. The corollary to this is that if the mind wanted nothing, if it was not interested, it would try nothing.

There is another side of this coin, however. In some instances the will may be the sole arbiter of knowledge. In short, ideas can be applied not only on empirical grounds, but on moral evidence as well. James maintains that it is impossible to limit belief to perceptual proof, since the demands of life are too insistent in this regard and our cherished objects must be guaranteed.

Given this human necessity to believe more than can be empirically proved, philosophy must provide for it. The so-called rationalistic philosophies make this provision for belief by their 'a priori' proofs, maintaining meanwhile, that extra-mental reality is subject to necessary laws which the pure intellect can discover beyond the narrow confines and limitations of experience.

But the empirical philosopher is prevented from taking such an easy and comfortable way out of the difficulty. He

holds that extra-empirical belief has no theoretical proof. Only the moral test can be applied to such belief, and nowhere is this more true than in the field of religion, with all of the articles of faith that it proposes to its adherents. This certainly makes clear how James' fideism grows out of his empiricism. It is compensatory for the necessary limitations of empirically verifiable knowledge.

The final and third aspect of James' empiricism is his 'experiential' theory of reality. Briefly stated, experientialism deals with the richness of content of our experienced knowledge. James maintains that the deeper features of reality are found only in perceptual experience, by one who knows how to find them there. This is a very characteristic doctrine of William James, who maintained over and over again, that the real thing was in the very experience of it; sensorial contact was essential. This is why he maintained that " the more we live by our intellect, the less we understand the meaning of life."[315] One literally had to 'feel' the reality.

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[315] G.W. Allen, op.cit., p. 179.

His early attraction to painting and his experiences as a student painter, undoubtedly, reinforced this conviction. Thus his empiricism tends to an '<u>immediatism</u>' in which the real nature of the thing experienced is identified with the evidence for its existence. <u>That</u> gold exists is proved by its sentient occurrence; <u>what</u> gold is, is revealed by the particular sentient qualities to which it gives rise, such as its yellowness, or the felt degree of its hardness, the form it gives to sight and touch. Through these sensed qualities we really come to know the 'what' of things, that which endures even when we are not in contact with them. Not a 'what' in the sense of some 'essential' characteristic, but simply the qualitative feeling that their appearance produces in us.

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