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THE LAWS AND POWERS OF INTELLECT:
EMERSON AND MODERN SCIENCE

THESIS

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Emerson frequently illustrates his philosophy with complementary scientific examples that clarify his ideas. This study examines Emerson's enumeration of the laws and powers of Intellect in conjunction with twentieth-century science, illustrating his ideas in the method he often employs. The physiological model of the two hemispheres of the brain parallels the two intelligences Emerson ascribes to man--understanding and reason. Hemispheric theories describe an analogue to the Emersonian epiphany--hemispheric integration--and help to distinguish the epiphany from other experiences associated with altered states of consciousness. Quantum physics and relativity theory illustrate the vision of the unity of nature perceived during the epiphany. Using modern science to illustrate Emerson's ideas in this way makes us apprentice to a rhetorical technique used and advocated by him.

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CHAPTER I

EMERSON AND SCIENCE

One of the most memorable passages in the essays of Ralph Waldo Emerson occurs in his 1836 book Nature, where he relates an unusual personal experience:

Crossing a bare common, in snow puddles at twilight, under a clouded sky, without having in my thoughts any occurrence of special good fortune, I have enjoyed a perfect exhilaration. . . . Standing on the bare ground,--my head bathed by the blithe air and uplifted into infinite space,--all mean egotism vanishes. I become a transparent eyeball. . . .¹

Despite its humorous imagery, this passage is of radical importance in the study of Emerson's theory of the laws and powers of the human intellect, for the mystical experience he describes lies at the heart of it. The experience of "inspiration" or "intuition" or, as recent critics prefer, "epiphany,"² involves the two great powers of the mind--understanding and reason. In one stroke, the epiphany raises the intellect to its highest power and signals the

¹The Complete Works of Ralph Waldo Emerson, Centenary Edition, ed. Edward Waldo Emerson (Boston and New York: Houghton Mifflin Company, 1903-1904), I, 9-10. All references are to this edition and will be cited parenthetically in the body of the text. Roman numerals refer to volume, arabic numerals to page number.

²See, for example, Gene Bluestein, "Emerson's Epiphanies," New England Quarterly, 39, No. 4 (1966), 447-460.

transcendence of what Emerson believes is man's fallen intellectual state.

Inspiration is, however, sporadic at best; it "is with us a flash of light, then a long darkness, then a flash again" (XII, 52-53). Emerson argues that "we ought to know the way to insight and prophecy as surely as the plant knows its way to the light; the cow and sheep to the running brook; or the feaster to his wine" (XII, 69). Instead, he concedes, we are so ignorant of the workings of our own minds that we rarely, if ever, experience the surge of power and knowledge of the epiphany (I, 72-73). Somewhat bitterly, Emerson likens the intellectual condition of man to the "poor shepherd, who, blinded and lost in the snow-storm, perishes in a drift within a few feet of his cottage door. . . . On the brink of the waters of life and truth, we are miserably dying" (III, 33). Aware of the intellectual degeneration of all men, Emerson yearns for "consecutiveness of inspiration," asking, "Are these moods in any degree within control?" (VIII, 274). Yes, he answers, but only after careful study of the laws and powers of intellect. Then, you will "attain the control of these states; you will enter them at will; you will do what now the muses only sing" (XII, 77). In this spirit of optimism, Emerson devotes much of his writing to the analysis of the human mind in the firm belief that as knowledge about it grows, so will control over the redemptive epiphany.

The significance of the epiphany in Emerson's thought is superseded only by its complexity. At the same time that he hopes to compile an "enumeration" of the laws and powers of the intellect like the "chemists use in their nomenclature and atomists in their descriptions" (XII, 3), Emerson acknowledges the difficulty of his task: "The laws and powers of the Intellect have, however, a stupendous peculiarity, of being at once observers and observed. So that it is difficult to hold them fast, as objects of examination or hinder them from turning the professor out of his chair" (XII, 10). Emerson even offers a kind of apologia for his contribution to the history of the laws of thought:

I cannot myself use that systematic form which is reckoned essential in treating the science of the mind. But if one can say so without arrogance, I might suggest that he who contents himself with dotting a fragmentary curve, recording only what facts he has observed, without attempting to arrange them within one outline, follows a system also. . . . (XII, 11)

Emerson's readers are thus faced with complicated, often elusive descriptions of the laws and powers of the human intellect, with which they must grapple in order to understand exactly what an epiphany is and how it is evoked. In an attempt to clarify Emerson's "dotted curve," scholars have examined his philosophy in conjunction with Kantian and Eastern thought and even in comparison with modern psychotherapy,³ but they have not yet tried a method of explication

³Frederic I. Carpenter briefly compares Emerson's and Kant's Reasons in his Emerson Handbook (1953; rpt. New York:

that Emerson himself employs. Intent upon clearly conveying his philosophy to his readers, Emerson graphically illustrates his assertions with examples he believes will clarify them. He often draws upon science to this end, science with its facts and logical analyses and powerful reputation to illustrate concretely the ideas he wishes to convey. In Nature, for example, he illustrates his belief in a "central Unity" of nature by noting the similarities between the human hand and the flipper of the fossil saurus (I, 43). The growth of the soul he compares to insect metamorphosis, and the polarity of "all things" to the "repulsion" of atoms (III, 245). His principle of undulation he likens to the law "by which we now inspire, now expire the breath" as well as to the law "by which the heart now draws in, then hurls out the blood" (II, 332). In each of these examples, science is the vehicle upon which Emerson relies to carry his ideas. He supplies a scientific complement for each spiritual truth, not to "prove" with facts his beliefs, but to convey them more clearly to his readers.

The science of our day, particularly that which studies

Hendricks House, Inc., 1967), pp. 125-126. He also traces Eastern influence on Emerson in his Emerson and Asia (Cambridge: Harvard University Press, 1930) as does Arthur E. Christy in The Orient in American Transcendentalism (New York: Octagon Books, 1963). Studies of Emerson's thought in conjunction with modern psychology are William E. Bridges, "Transcendentalism and Psychotherapy: Another Look at Emerson," American Literature, 41, No. 2 (May 1969), 157-177; and J. Russell Reaver, Emerson as Mythmaker (Gainesville: University of Florida Press, 1954).

the two hemispheres of the human brain, can also be used to elucidate Emerson's thought. With this intent, the present study examines Emerson's comments upon the intellect and its powers in conjunction with physiological theories of brain functioning, illustrating Emerson's ideas with scientific examples in the method that he often employs. At the same time, because of its parallels with Emerson's own psychology of the intellect, neurophysiology offers insights into some of the inevitable questions that arise in the study of Emerson's thought.

One of the recurring problems for students of Emerson is comprehending the powers of understanding and reason. Chapter Two defines these dual faculties of thought first by drawing upon statements made about them by Emerson and then by comparing them to descriptions of the left and right hemispheres of the brain. The resulting analogy demonstrates that both sets of powers think according to different but complementary principles, and that this difference creates a feudal relationship in which, for example, one hemisphere can oppress the other. The process whereby the left hemisphere frequently comes to monopolize conscious awareness, rendering many of the right hemisphere's ideations unconscious, suggests why and how understanding dominates the intellect and leaves reason to become the "unknown" and unconscious power of the "inner mind."

Emerson believes that all men possess both understanding and reason and therefore are, at least in principle, capable of experiencing an epiphany. In his words, "all are inspirable, and sometimes inspired" (XII, 74). But the means of evoking this higher intelligence, he admits, is a combination of indulgence, restraint, and perhaps a bit of luck (XII, 75). The despair of readers when confronted with these nebulous suggestions is accurately summed up by Joseph Baim, who writes that confused students of Emerson ask plaintively, "How, after all, does a man make himself 'passive'? And what happens to his mind that would permit it to admit 'all'? How, finally, does one go about becoming a 'transparent eyeball'?"⁴

Essential to deciphering Emerson's prescriptions for inspiration is a firm understanding of the nature of the epiphany itself. Chapter Three of the present study examines Emerson's concept of the epiphany in conjunction with complementary scientific theories that illustrate this elusive aspect of his thought. A physiological analogue of the Emersonian epiphany is hemispheric integration, which occurs when the usually dominant left hemisphere is relaxed. The right hemisphere's processes then enter conscious awareness, and the two minds unite in a mutually complementary and equal relationship. This hemispheric

⁴"The Vision of the Child and the Romantic Dilemma: A Note on the Child-Motif in Emerson," THOTH, 7 No. 1 (1966), 24.

process sheds new light on Emerson's epiphanies, helping us to see that they are instances during which the powers of understanding and reason synthesize to form Intellect Receptive. The individual then thinks at his ideal intellectual force--"with reason as well as understanding" (I, 72-73). The technique of encouraging hemispheric unity also closely parallels that which Emerson proposes will evoke inspiration. The hemispheric analogue suggests how Emerson's paradoxical "willful passivity" liberates reason from the unconscious, unites it with understanding, and raises the intellect to its highest power.

Emerson often likens the epiphany to other states of consciousness--such as sleep, madness, childhood--perhaps in an attempt to indicate what it is not. Physiology reveals a thread that unites hemispheric integration and dream-sleep, psychosis, and childhood: all of these states are marked by the presence of usually unconscious processes in conscious awareness. But the ratio of unconscious to conscious thought distinguishes these states of mind from hemispheric integration. Unconscious processes dominate the intellects of the madman, the dreamer, and the child, whereas in the mind of the individual who experiences hemispheric integration, conscious and unconscious processes are harmoniously and equally fused. These data and their application to Emerson's thought are discussed in Chapter Four.

Chapter Five looks forward to the possibility of additional studies of Emerson's thought in conjunction with science. The insights attained during an epiphany form a world-view characterized by the principle of "unity in variety" (I, 43). Twentieth-century physics helps resolve this Emersonian paradox. The theories of quantum and relativity physics in particular, which offer illustrations of the pervading unity of Nature, play an important role in illustrating Emerson's monistic principles. Room also exists for additional study of Emerson's notion of Intellect Constructive, which brain physiology can illustrate in much the same way that it does in the present analysis of Intellect Receptive.

It is not my purpose in this study to validate with "facts" Emerson's belief in a double consciousness or in mystical experiences, or to prove him a prophet of modern psychology. Rather, it is to clarify his ideas by employing a method of explication that he frequently uses in his lectures and essays. Emerson always admired science, a knowledge of which he believed to be "quite indispensable to a wise man" (I, 93),⁵ and he uses the facts of science

⁵For excellent discussions of Emerson and science, see Leonard N. Neufeldt, "The Science of Power: Emerson's Views on Science and Technology in America," Journal of the History of Ideas, 38 (1977), 329-344 ; and Gay Wilson Allen, "A New Look at Emerson and Science," in Literature and Ideas in America: Essays in Memory of Harry Hayden Clark, ed. Robert Ralk (Athens: Ohio University Press, 1975), pp. 58-78.

as vehicles to convey his ideas. Indeed, he comments, if somewhat facetiously, that the "real worth" of a fact is as "a figure or illustration of my thought" (VIII, 11). Emerson does, of course, voice some criticism of science, condemning many of its assumptions and methods as "sensual, and therefore superficial" (III, 14). Scientists who devote themselves solely to collecting facts without connecting them to ideas "freeze their subject under the wintry light of the understanding" (I, 74). Like those men who worship God in the traditional, unquestioning way, these scientists do not use "all their faculties" of thought (I, 74). In Emerson's view, they are not true naturalists until they think with their spiritual intelligence and thus apprehend the spiritual in Nature (I, 74). The orthodox scientific method admits for consideration as truth only that information that originates in observation and that can be verified by experiment. Because Emerson maintained faith in the validity of inspiration as a source of knowledge, he sees rigid science to be lopsidedly materialistic, moving with doomed steps into the "thin and cold realm of pure geometry and lifeless science" (III, 53, 62). But as Peter Obuchowski notes, Emerson's criticisms do not represent a "traditional, humanistic refutation of naturalistic science"; rather, Emerson objects only to a science that does not attempt to reconcile itself with spiritual truths.⁶ What Emerson urges

⁶"Emerson's Science: An Analysis," Philological Quarterly, 54, No. 3 (1975), 628.

is a "synthesis of the extremes" of science and mysticism into a "temperate zone" (III, 62). His own use of science to complement his mysticism is his way of actively creating this synthesis.

My choice of a hemispheric model of intellectual functioning for coordinated study with Emerson's theory of intellect is not an arbitrary one. Other schools of thought, such as Freudian psychology, assert with Emerson that man's mind is possessed of two opposed powers. But though Freud's theory of primary and secondary thought processes parallels Emerson's reason and understanding, his characterization of the primary process as regressive and primitive is not compatible with Emerson's description of reason as a sophisticated power of thought.⁷ Hemispheric theories, on the other hand, regard the particular abilities of the left and right hemispheres as equally developed and valuable to the highest intellectual processes. The theory of post-Freudian Silvano Arieti contains modifications of Freud's original schema, including a more favorable reconsideration of the primary process and the addition of what Arieti calls the tertiary process, a synthesis of primary and secondary processes.⁸ Although Arieti provides physiological

⁷Sigmund Freud, The Basic Writings of Sigmund Freud, ed. A. A. Brill (New York: Modern Library, 1938).

⁸Creativity, The Magic Synthesis (New York: Basic Books, Inc., 1976). See especially Part II, "The Psychological Components of Creativity," pp. 35-98.

foundations for his theory, he does not offer the detailed, concrete examples with which Emerson prefers to illustrate his ideas. Hemisphere researchers' firm grounding in the experimental method and strict adherence to physiological considerations render their theories more compatible with my attempt to imitate Emerson's use of the specific phenomena of physical Nature in his own writings.

The juxtaposition of scientific terminology and the lyricism of Emerson's prose in the following chapters may grate upon the ears of some, but the use of technical sounding modern phrases like "cycles per second" or "neuronal inhibition" is necessary for accuracy and clarity. It is, in fact, not too great a departure from Emerson's own style when, for example, he declares men to be photometers who detect in their brothers the light of the universal soul (II, 166).

The sciences with which Emerson complements his ideas are those that were available to him--the natural sciences, biology, botany, and physics. Knowledge about the functions of the cerebral hemispheres, their relationship during everyday cognition and during "mystical" states, and the crucial differences among creative altered conditions and other mental states was limited during the nineteenth century. With recently acquired data about human intellectual functioning that can be used to illustrate Emerson's beliefs, it seems appropriate to draw upon the science of our day

in a study of his theory of intellect. In doing so, we employ a rhetorical technique that Emerson himself consistently relies upon.

CHAPTER II

A DOUBLE CONSCIOUSNESS

Almost any study of Emerson's thought must consider the nature and functions of the two powers of intelligence he ascribes to man, understanding and reason. Occurring throughout his voluminous writings, these two concepts play a crucial role in his transcendental philosophy, for it is through understanding and reason that man transcends his intellectually fallen state. Despite their significance in Emerson's thought, however, understanding and reason are difficult terms to define, particularly because Emerson's free interchange of terms leads, for example, to a seemingly paradoxical definition of reason. Reason's relationship to understanding is equally obscure; are understanding and reason qualitatively different entities--mind and soul--or are they polar extremes of the same power? One thing that is clear is that reason, a mighty power of thought, is subordinate to understanding to the extent that it is frequently unconscious. But by what process does it become unconscious, or is it by nature restricted from awareness?

Still another look at Emerson's comments upon the laws and powers of reason and understanding can aid in answering some of these queries, but equally valuable to the study of

Emerson's belief in a double consciousness in man is the analogy provided it by the divided cerebral cortex of the human brain. The characteristics of the two hemispheres sustain a parallel to reason and understanding, clarifying Emerson's theory of intellect with concrete scientific illustrations. Of course, reason and understanding are not equated with the hemispheres of the brain, nor is the analogy perfect in every point. Reason and understanding are powers of thought to which Emerson ascribes no anatomical location, whereas the hemispheres are physiological organs of the human brain. Moreover, in his faculty hierarchy, Emerson believes reason to be the "highest" power, whereas the hemispheres are considered equal in development and ability. Nevertheless, the resemblances among reason and understanding and the two hemispheres are such that answers to some of the important questions about the nature of the double consciousness are suggested. For example, Emerson's comments and the analogy provided by neurophysiology demonstrate understanding and reason to be polar powers rather than wholly different aspects of man's psyche. Moreover, just as the specialized functions of the hemispheres are antagonistic yet complementary, so are the powers of understanding and reason opposed and reconcilable. The special abilities of each hemisphere also determine to a large degree its control, or lack of it, over conscious thought processes and behavior. Much in the same way, the respective talents of understanding and reason affect their roles in intellectual processes. Knowledge about

the hemispheres can thus suggest why and how understanding comes to dominate reason.

The correspondence between reason and understanding and the dual hemispheres of the brain is an analogous one only, drawn with the purpose of illustrating and explicating Emerson's concept of two consciousnesses in man. The analogy is not one that Emerson could have made, for the mapping of hemispheric functions has occurred only recently in the twentieth century. But noting the degree to which Emerson relies in his own writing upon scientific facts to clarify his ideas, I feel that my analysis of his theory of intellect in conjunction with physiology is Emersonian in method and intent.

The belief that man is possessed of two different minds or ways of thinking is an ancient one, perpetuated perhaps by the early discovery that the cerebrum of the human brain is divided. Attempts to determine the abilities of each hemisphere revealed that the left hemisphere governed most "important" thought processes and behaviors, such as speech and handwriting. The left hemisphere was subsequently termed the major one, while the right was assumed to be "minor" and inferior, perhaps developmentally or evolutionally disabled.¹ Twentieth-century research, however, originating with patients whose hemispheres had been surgically separated

¹For an excellent survey of the history of hemisphere research, see Joseph E. Bogen, "The Other Side of the Brain II: An Oppositional Mind," Bulletin of the Los Angeles Neurological Societies, 34, No. 3 (1969), 135-162.

by a commissurotomy,² demonstrates the existence of right hemisphere control over many thought processes which, though different from those for which the left hemisphere is specialized, are not inferior to them.

Commissurotomy studies have repeatedly shown that "the two disconnected hemispheres, working on the same task, may process the same sensory information in distinctly different ways."³ This discovery led J. E. Bogen and M. S. Gazzaniga, pioneer researchers with split-brain patients, to postulate the existence of two different ways of thinking, one lateralized in each hemisphere. Since Bogen and Gazzaniga's proposal in 1965, it has become generally accepted on the basis of consistent findings with both commissurotomy and normal subjects that "the individual with two intact hemispheres has the capacity for two distinct minds."⁴ The individual with a normally functioning brain thus possesses two very different points of view within him, each of which has a hemispheric origin in the most sophisticated portion of the brain--the cerebral cortex.

²A commissurotomy surgically cuts the corpus callosum, the nerve tissue that connects the hemispheres. Commissurotomies were originally performed to treat epilepsy; hemisphere research grew out of experiments to determine what faculties had been damaged or lost by the surgery. For a good discussion of post-commissurotomy studies, see Michael S. Gazzaniga, "The Split Brain in Man," Scientific American, 217, No. 2 (1967), 24-29.

³I. Levy as quoted in David Galin, "Implications for Psychiatry of Left and Right Cerebral Specialization," Archives of General Psychiatry, 31 (1974), 573.

⁴Bogen, p. 158.

Emerson introduces his own belief in a dichotomy within the mind in Nature, where he writes that the various properties of external nature--space, time, climate, animals, mechanical forces, society--"educate both the Understanding and the Reason" (I, 36). Later in the same essay he defines understanding as the "common sense" (I,37), the rational faculty of the intellect. Of reason, Emerson writes in Nature: "Man is conscious of a universal soul within or behind his individual life. . . . This universal soul he calls Reason" (I, 27). The soul, according to Emerson,

is not an organ, but animates and exercises all the organs; is not a function, like the power of memory, of calculation, of comparison, but uses these as hands and feet; is not a faculty, but a light; is not the intellect or the will, but the master of the intellect and will; is the background of our being, in which they lie,--an immensity not possessed and that cannot be possessed." (II, 270)

Most of Emerson's readers will conclude that reason is the "soul" of traditional religion, separate and distinct from the mind or intellect. But Emerson also refers to reason as one pole of the "double consciousness" in man and as one of two "states of thought," the other being understanding (I, 353, 182). At this point, reason seems to be two mutually exclusive things--soul and a faculty of the intellect. The reconciling definition of reason appears in one of Emerson's letters, where he writes that "Reason is the highest faculty of the soul--what we mean often by the soul itself."⁵ It

⁵The Letters of Ralph Waldo Emerson, ed. Ralph L. Rusk (New York: Columbia University Press, 1939), I, 412-413.

seems, then, that Emerson roughly equates soul and consciousness, designating with these words that which we call "being" or the human personality. Soul directs several faculties, such as the Senses, the Passions, and Intellect; reason and understanding are polar aspects of one subsuming power, Intellect, just as the two hemispheres are faculties of the single brain. The physiological model of two opposed minds within one thus complements Emerson's proposal that a "double consciousness" exists within the intellect. A look at the particular abilities of each of the four faculties reveals additional correspondences, particularly between the laws and powers of understanding and the left hemisphere and of reason and the right hemisphere.

Like understanding, the left hemisphere is characterized by its own style of thinking different from that of its counterpart. The left hemisphere specializes in what J. E. Bogen calls "propositional thought"⁶ which, like the classical reason, directs language, mathematics, and logical reasoning. Studies with commissurotomy subjects show, for example, that the patients are able to name and describe objects held in their right hands or presented to their right visual fields--both of which are governed by the left hemisphere--but cannot perform similar tasks when the right hemisphere is tested.

⁶Bogen, p. 138. For a good review of left and right hemisphere skills, see W. R. Buckman, "The Relationship of Evoked Potentials to Field Independence-Dependence and to Lateral Eye Movements," Thesis Stephen F. Austin State University 1980.

The left hemisphere can also solve problems requiring complicated calculation, whereas the right can perform simple addition only up to ten. Additional research with split- and intact-brain patients demonstrates that the overall cognitive style for which the left hemisphere is specialized is "an analytical, logical mode."⁷ It thinks sequentially in a linear, logical way, specializing in categorical distinctions: "it names, identifies, classifies, analyzes, describes, explains, reasons."⁸ The left hemisphere is therefore well suited for performing in a language-oriented society that prizes itself on its technological skill and rational thinking.

Understanding is that power within the mind that may best be designated as the common sense or the power for the "perception of matter" (I, 37; VIII, 3). Like the left hemisphere, it works on external reality according to an "arithmetical or logical" principle, adding, dividing, combining, and measuring (II, 329). Understanding's particular ability to analyze "sensible objects is a constant exercise in the lessons of difference, of likeness, of order, of being and seeming, of progressive arrangement, of ascent from particular to general" (I 36-37). Understanding is the more rational power of intellect whose mechanical, analytic formulations make it the

⁷Galin, p. 573.

⁸Kenneth Pelletier, Toward A Science of Consciousness (New York: Dell Publishing Company, 1978), p. 95.

important mental faculty of the scientist (I, 74). Because understanding works best with "sensible" or material objects, it is also the power best suited to guide the individual through the physical world. It passively accepts the orderings of surface reality and analyzes them to determine physical laws for the prudent conduction of farming, business, trade, and finance. In Emerson's words, "We must learn the homely laws of fire and water; we must feed, wash, plant, build.

. . . Poverty, frost, famine, disease, debt, are the beadles and guardsmen that hold us to common sense" (VIII, 3). Like the left hemisphere, understanding is skilled at types of thinking that lend more readily to worldly, practical matters.

The resemblances among Emerson's dual powers of thought and the human brain continue with reason and the right hemisphere. Contrary to its analytical complement, the right hemisphere specializes in "appositional thought,"⁹ organizing information in synthetic and unusual ways and performing tasks requiring the integration of complex spatial patterns. In experiments with commissurotomy patients, the right hemisphere proves itself superior at nonverbal tests: patients can feel with the left hand to find an object that matches a picture flashed to the left visual field (right hemisphere), whereas the left hemisphere is unable to guide the right hand to perform the same task. The right hemisphere is also particularly adept at recognizing faces, and it surpasses the left in

⁹Bogen, p. 140.

musical skills. Inferior to the left hemisphere in language, the right hemisphere nonetheless possesses a small vocabulary, employing it in its "characteristically holistic style."¹⁰ Primarily, however, the right hemisphere uses a "nonverbal mode of representation, presumably images."¹¹ Other experiments indicate that the right hemisphere thinks "by a nonlinear mode of association rather than by syllogistic logic; its solutions to problems are based on multiple converging determinants rather than a single causal chain."¹² The right hemisphere is thus better at intuiting the whole from just a part. Because it lacks the verbal and analytical skills important in a "rational" society, the right hemisphere is not as "worldly" a power as its counterpart.

According to Emerson, reason is that faculty of intellect that thinks by the "spontaneous or intuitive principle" (II, 329). It "never reasons, never proves."¹³ It is not restricted to perceiving and processing impressions passively, but instead has powers to synthesize, reorganize, and reshape experience in the manner of the artist. As opposed to the mechanical understanding, reason is imaginative: "Imagination may be defined to be the use which the Reason makes of the material world" (I, 52). It creatively employs "figurative

¹⁰Galin, p. 574.

¹¹Galin, p. 574.

¹²Galin, p. 574.

¹³The Letters of Ralph Waldo Emerson, I, 413.

speech" as well as images and symbols in its thinking (VII, 17). Understanding is the power of the scientist; reason is the power of the poet, who sees wholes rather than discrete parts, who employs symbolic language, and who reorganizes nature after the fashion of the Creator. Reason is, most importantly, the power of the moral man, for it discerns spiritual laws in nature. It pierces the seeming solidity of matter to apprehend intuitively the underlying spiritual truth. It "transfers" the material "lessons" taught by understanding into "its own world of thought, by perceiving the analogy that marries Matter and Mind" (V, 36). Reason is thus "an intelligence which reveals to man another condition of existence and a nearer approach to the Supreme Being."¹⁴ Both reason and the right hemisphere think intuitively, relying far less on logic and analysis than their complements. Both also are particularly imaginative in that they think often in terms of images and visions. And both reason and the right hemisphere are less materialistic or worldly than the other faculties of the intellect, the right hemisphere because it lacks socially important language and analytic skills, reason because its emphasis is upon the spiritual, the ideal, and the moral.

The functions of understanding and reason do not correspond exactly to those of the hemispheres of the brain, yet

¹⁴The Journals and Miscellaneous Notebooks of Ralph Waldo Emerson, ed. W. H. Gilman, et al. (Cambridge: Harvard University Press, 1961), II, 14.

the parallels among them are striking enough to create an analogy between the mind as Emerson views it and the human brain as seen by modern neurophysiology. Understanding and reason are two powers of intellect at polar extremes, one worldly, one spiritual, resembling the two halves of the cerebrum that possess similarly antagonistic powers--logical versus synthetic, verbal versus spatial, mathematical versus musical. Both pairs of faculties work with the same material, the hemispheres with incoming electrical stimuli, reason and understanding with impressions of Nature, yet each power thinks in a different way. The dual human brain can provide the individual with the advantage of two heads instead of one, increasing "prospects of a successful solution" to a problem as the abilities of one hemisphere aid and complement those of the other.¹⁵ Reason's and understanding's powers are similarly complementary, for in Emerson's philosophy, man is neither wholly matter nor spirit. He is a combination of both, just as his world is a material manifestation of spirit. To understanding himself and nature, man needs powers of thought suited for apprehending both matter and spirit.

Ideally, Emerson believes, understanding and reason should labor harmoniously and equally to achieve the proper tension between physical and spiritual concerns. The intel-

¹⁵Joseph E. Bogen and Glenda M. Bogen, "The Other Side of the Brain III: The Corpus Callosum and Creativity," Bulletin of the Los Angeles Neurological Societies, 34, No. 4 (1969), 191.

lect "must have the same wholeness which nature has" (II, 340). But Emerson sees the human intellect "infected" with the "disease . . . of rebellion and separation" (II, 105). Man lives in "succession, in division, in parts, in particles" because "he works on the world with his understanding alone" (II, 269; I, 72). Allowing understanding to dominate his conscious thought renders man a "god in ruins" (I, 72) who applies to Nature but half his intellectual force. He is thus the "dwarf of himself. Once he was permeated and dissolved by Spirit" (I, 71). He lives in Nature but masters it only by a "penny-wisdom; and he that works most in it is but a half-man, and whilst his arms are strong and his digestion good, his mind is imbruted, and he is a selfish savage" (I, 72). "His relation to nature, his power over it, is through the understanding, as by manure; the economic use of fire, wind, water, and the mariner's needle; steam, coal, chemical agriculture; the repairs of the human body by the dentist and the surgeon" (I, 72).

Of course, Emerson realizes the importance of understanding's unique powers: "The whole character and fortune of the individual are affected by the least inequalities in the culture of the understanding; for example, in the perception of differences" (I, 38). Nevertheless, total reliance on understanding upsets the balance of mind and man. Emerson writes of Conservatism and Reform with equal applicability to understanding and reason: "each is a good half, but an impossible whole" (I, 299). With specific reference to

understanding, Emerson writes in Nature about the impossibility of man's apprehending complete truth with its insights alone: "There remains much to learn of his relation to the world . . . and it is not to be learned by any addition or subtraction or other comparison of known quantities" (I, 66). The extreme dependence upon understanding--upon observation of surface realities and logic--is what leads Emerson to criticize the scientific method, particularly because it does not accept truth discovered through intuitive (what orthodox science calls "irrational") means.

With the understanding governing most thought, the imaginative reason is "suppressed" (V, 255), its thoughts "unknown" (XII, 80). The powers of reason are beyond the "possessed and conscious intellect," which is dominated by understanding, and hence are what we would call un-conscious. But unconscious reason is not the same aspect of the psyche that most of us mean when we talk about the unconscious.¹⁶ Reason is not so much a reservoir of lost memories or censored thoughts or suppressed desires as it is a process or way of thinking. It is repressed by understanding to the point that it simply is not a part of conscious awareness.

The pattern of dominance and repression exhibited by reason and understanding becomes clearer with reference to the hemispheres. Whereas both hemispheres generally receive

¹⁶For a different opinion, see Gay Wilson Allen, "Emerson and the Unconscious," American Transcendental Quarterly, 19 (1973), 26-30.

the same information from external sources, only one hemisphere gains the "output channel" into awareness and controls overt behavior.¹⁷ The functioning relationship of the hemispheres in this battle for control is difficult to trace with accuracy, but David Galin, author of a survey of hemisphere research, hypothesizes about some possible relationships between the hemispheres as they vie for access to the pathway to awareness.¹⁸

One possibility mentioned by Galin is that the hemispheres operate in alternation, taking turns depending upon the task. The "on" hemisphere might completely inhibit the other from working on the problem, or perhaps it only partially suppresses the other's functioning. A third possibility is that the "on" hemisphere dominates overt behavior, but rather than inhibiting or suppressing the other hemisphere's processes, succeeds only in disconnecting its insights from the conscious mind. The disconnected hemisphere, unable to gain access to awareness, is independently conscious but unable to transmit its own plan of action. In this situation, both hemispheres would be relatively active, working to process stimuli, perform tasks, and solve problems, but only one would speak to the ear of awareness.

In any of these possible relationships, certain factors will determine which hemisphere is the "on" or dominant one.

¹⁷Galin, p. 575.

¹⁸Galin, p. 575.

One element mentioned by Galin is resolution by speed; that is, the hemisphere that solves the problem first gains the pathway to awareness first, simultaneously inhibiting the plan of the other hemisphere. Obviously, the hemisphere specialized for a particular function would be more likely to perform first a task requiring that ability. The left hemisphere, for example, would dominate awareness when a task called for verbal prowess, whereas the right hemisphere would be the dominant one in a task that required spatial expertise, such as recognizing a face. Such a task-dominant relationship on the whole is an efficient one, with the hemisphere best suited for a task gaining control over its execution. At the same time, however, the subordinate hemisphere, while perhaps not as quick to solve a problem, might possibly offer a more prudent solution.

Another factor which may determine which hemisphere will dominate is motivation. From an experiment he conducted with split-brain monkeys, M. S. Gazzaniga concludes that "cerebral dominance in monkeys is quite flexible and subject to the effects of reinforcement[;] the hemisphere which is most successful in earning reinforcement comes to dominate." In humans as well, the "probability that a hemisphere will control a response is directly related to its history of obtaining reinforcers," so that the hemisphere that "cares

more about the outcome preempts the output."¹⁹ The environment and the kinds of thinking it makes necessary may thus help determine hemisphere dominance.

In fact, in both resolution by speed and by motivation, the environment determines to a great extent which hemisphere will most often govern awareness. In a society that demands from an individual language skills, mathematical prowess, and rational thought, and which rewards those abilities, the left hemisphere would more likely perform such intellectual functions first and consequently obtain reinforcement for doing so. Since the activities of daily life "do not demand much integration of holistic and analytic thought," it is not surprising that much of the behavior of normal adults is dominated by the left hemisphere.²⁰ Galin believes that the process by which the left hemisphere comes to dominate the right is a developmental one that begins early in life. He writes, "As the left hemisphere develops its language capability in the second and third year of life, it gains a great advantage over the right hemisphere in manipulating its environment and securing reinforcements."²¹ He concludes:

¹⁹M. S. Gazzaniga as quoted in Galin, p. 575. Another valuable study by Gazzaniga is "The Split Brain in Man," in The Nature of Human Consciousness, ed. Robert Ornstein (New York: Viking Press, 1974), pp. 87-100.

²⁰Galin, p. 575.

²¹Galin, p. 575.

"It seems likely to me that this is the basis for the left hemisphere's suzerainty in overt behavior."²²

The "tyranny of understanding" noted by Emerson closely parallels that of the left hemisphere, for understanding too is adopted and educated by the "world of men" because it best works to "short ends, to daily life in house and street" (XII, 123). The world of society and business, Emerson realizes, demands capabilities in logic, in manipulating matter in commerce, in managing calculatingly the details of finance, and in comprehending the physical laws of nature for farming. That the preeminence of understanding is the result of a process rather than an inherent quality seems likely in the light of hemispheric research. Emerson writes that the mind of the child is "whole," equally devoted to understanding and reason (II, 48). But as the child matures and begins to adopt the ways of men in society, his understanding begins its ascent to power. His unity of consciousness is lost in a type of developmental fall that Emerson likens to the "Hunterian law of arrested development" (XII, 60). Inspiration "is often arrested for years and ages. This premature stop, I know not how, befalls most of us in early youth; as if the growth of high powers, the access to rare truths, closed at two or three years in the child, while all the pagan faculties went ripening on to sixty" (XII, 60). Perhaps some of the skills that enable the left hemisphere to

²²Galin, p. 575.

gain and maintain dominance play a similar role in the understanding's "ripening." In both instances, a faculty's ability to think a certain way or pose a certain solution plays an important role in its rise to power.

As the left hemisphere gains increasing dominance over behavior, what of the ideations of the right hemisphere? Are its abilities repressed so that it exists in a type of dormancy, or are its powers exercised again and again only to be segregated from conscious awareness by the quicker and more highly motivated left hemisphere? Research indicates that a combination of these effects probably occurs. On the one hand, the unique skills of the right hemisphere may remain underdeveloped in individuals "whose only education consists of reading, writing, and arithmetic."²³ Right hemisphere skills that do develop may be inhibited by left hemisphere activity or may be disconnected from conscious awareness. David Galin believes that, in this final instance, the two hemispheres function as independent streams of consciousness. In certain situations, he theorizes, the two hemispheres, simultaneously processing the same information in their unique ways, might decide on different solutions to a presented problem or task. But because the left hemisphere attains control of the accessway to consciousness most of the time--yet seemingly is unable to repress completely right hemisphere activity--it may disconnect

²³Bogen and Bogen, p. 201.

with neuronal excitation in the corpus callosum the right hemisphere's insights. Galin concludes that the "mental process in the right hemisphere, cut off this way from the left hemisphere consciousness that is directing overt behavior, may nevertheless continue a life of its own."²⁴ His hypothesis further suggests "a neurological mechanism for at least some instances of repression, and an anatomical locus for the unconscious mental contents."²⁵ Galin does not believe that the right hemisphere is the sole reservoir of all unconscious thought, but he sees a "clear parallel between the functioning of the isolated right hemisphere and mental processes that are repressed, unconscious, and unable to directly control behavior."²⁶

Just as the ideations of the right hemisphere are often unconscious, so are those of reason, as Emerson points out. Perhaps reason is in some way restricted to the "inner mind" by understanding's machinations. Like the right hemisphere, the powers of reason may be to some extent ignored and undeveloped. Emerson writes that the human intellect suffers from "arrested development," possibly because it is understanding that the world of men educate, foster, and employ in their materialistic thinking. Some of the powers of reason that are allowed to develop, on the other hand, may rarely be

²⁴Galin, p. 576.

²⁵Galin, p. 575.

²⁶Galin, p. 574.

exercised. Lying dormant, like full-grown sleeping beasts, they await a moment of awakening. Reason also may exercise some of its powers at the same time that understanding employs its own, thus creating two virtually independent streams of thought. Reason may transfer impressions of nature into "its own world of thought" only to have its knowledge of spiritual reality held unconscious, disconnected in some way from awareness by an intellectual power concerned solely with material truth.

The illustration of Emerson's theory of a double consciousness in man with concrete physiological information about the functioning of the human brain helps to clarify and expand some of Emerson's ideas about understanding and reason. The antagonistic but complementary natures of understanding and reason resemble those of the left and right hemispheres. And, like the hemispheres, which are divisions of the physical brain, understanding and reason are polar aspects of intellect. The similarities among the powers of understanding, reason, and the hemispheres also shed further light upon the individual natures of Emerson's dual forces, making clear that they work upon the same reality--Nature--but in distinctly different ways--with different abilities, conclusions, and insights. The correspondence between psychophysiology and Emerson's thought also enables one to see understanding's dominance as a function, at least in part, of the type of society in which an individual lives. The parallels between the theories of Emerson and scientists

likewise can explain reason's role as an unconscious, repressed entity that exercises its full powers only during the supreme moment of the epiphany.

CHAPTER III

AS OF AN INTELLECT DOUBLED ON ITSELF

The feudal relationship between understanding and reason creates several adverse effects, which Emerson readily points out. First of all, because man is "disunited with himself" he sees the world to be disunited as well (I, 269). The conditioned preeminence of understanding habituates him to perceive in a step-by-step way, in "parts and in succession" (I, 301). In the same way that left hemisphere dominance "seems to interfere with the perception of an overall Gestalt, leaving the left hemisphere 'unable to see the wood for the trees',"¹ the tyranny of understanding causes men to see the world "piece by piece," "broken and in heaps," rather than as a harmonious whole proceeding from Spirit.

The control of awareness by understanding influences the perception of reality in another way, permitting the individual to see only the material in Nature and to believe it to be absolute. For instance, the "influence of the senses has in most men overpowered the mind to that degree that the walls of time and space have come to look real and insurmountable" (II, 272). With the aid of reason, one would

¹I. Levy as quoted in Galin, p. 573.

easily "learn that time and space are relations of matter," that they are "relative" (I, 57).

The "worst feature of this double consciousness," however, is the dim prospect of overcoming it. Emerson laments that the "two lives of the understanding and of the soul . . . never meet and measure each other; . . . and, with the progress of life, the two discover no greater disposition to reconcile themselves" (I, 354).

Occasionally, however, understanding and reason do reconcile: "Meantime, in the thick darkness, there are not wanting gleams of a better light, occasional examples of the action of man upon nature with his entire force,--with reason as well as understanding" (I, 72-73). Among these instances Emerson includes miracles, the history of Jesus, Animal Magnetism, prayer, self-healing, the wisdom of children, and enthusiasm (I, 73). Enthusiasm is, more specifically, the notable "transparent eyeball" experience Emerson records in Nature and the moment of epiphany he describes in "Intellect." It is the mystical or transcendent experience, during which the double consciousness in man becomes Intellect Receptive (II, 334).

In several of his essays, Emerson offers specific conditions conducive to attaining Intellect Receptive. His prescriptions, however, are often scanty (which he attributes to his ignorance of the modus of inspiration) or are frequently so rhapsodic with his own enthusiasm that concrete details are difficult to grasp. But in the same way that neurophysiological

parallels clarify the process whereby understanding and reason become antagonists, they illuminate that by which the two forces become partners during inspiration. The subjective nature of the Emersonian epiphany might seem incompatible with scientific data, but studying one in conjunction with the other reveals such a clarification and illustration of Emerson's notion of epiphany that the seeming incongruity dissolves.

The enlightening correspondences between science and Emerson's mysticism emerge from studies of "altered states of consciousness" similar to the epiphany described by Emerson. The neurophysiological correlates to inspiration shed light upon Emerson's principle of undulation, the unique characteristics of Intellect Receptive, and the frequently visionary nature of the attained insight. More specifically, the undulation between intellectual exertion and rest prior to inspiration may be likened to the movement from the state of consciousness associated with beta brain-wave emission from the hemispheres to that accompanying alpha-wave emission. Scientific descriptions of hemisphere wave states illustrate Emerson's principle of undulation and, in addition, suggest how the forbearance of thinking prepares the way for the formation of Intellect Receptive. The hypothesis that the most productive and creative relationship between the hemispheres is one of integration suggests that Intellect Receptive is a similar synthesis of understanding and reason. Finally, hemispheric integration and its accompanying brain-

wave rhythm provide a model whereby the visionary nature of insight is explained.

The physiological facts and theories offered here play a dual role: on the one hand, they complement Emerson's philosophy of inspiration with appropriate scientific illustrations in the method of explication that Emerson often employs; and secondly, the data of science can clarify and expand by analogy Emerson's comments upon the epiphany that are confusing to many of his readers.

Attaining the condition of mind known as Intellect Receptive is a rare occurrence. Inspiration is "coy and capricious," occurring randomly in flashes of insight punctuated by long periods of darkness (XII, 52-53). "There are times," Emerson writes, "when the intellect is so active that everything seems to run to meet it" (VIII, 269). "But the favorable conditions are rather the exception than the rule" (VIII, 220). Emerson hopes to remedy the sporadic nature of inspiration by studying the laws and powers of intellect, paying particular attention to the conditions that seem to court the coy epiphany. His most detailed discussion of these predisposing factors appears in "Intellect," where he notes two important preparatory actions. The first step along the path to Intellect Receptive and inspiration is a thorough knowledge of the area in which insight is desired. You must first "labor with your brains," Emerson instructs, for "the oracle comes because we had previously laid siege to the shrine" (II, 332). "Long familiarity with the objects

of intellect" is thus one condition that enhances the possibility of an epiphany (VIII, 274). Understanding is clearly better suited for such tedious, laborious study, in much the same way that the left hemisphere is better at acquiring, analyzing, and organizing factual knowledge.

The second preparatory step is the relaxation of the earlier intense mechanical activity of understanding, creating a state of "non-thinking." The importance of curbing the willful pursuit of knowledge Emerson attributes to a law of intellect, which states that "our truth of thought is therefore vitiated as much by too violent direction given by our will, as by too great negligence" (II, 328). Relaxing the ever-busy understanding can be a difficult task, particularly since it requires exercising "passive will." Emerson offers some suggestions for stilling understanding, proposing that we "only open our senses, clear away as we can all obstruction from the fact, and suffer the intellect to see" (II, 328). In "Inspiration," he catalogs other mind-quieting techniques, such as "solitary converse with Nature" and "solitude of habit" (VIII, 287, 288). Inspiration is a "pious reception" that seems to occur only after understanding's activities are diminished.

The alternation between intellectual exertion and rest Emerson refers to as undulation. First, "you must labor with your brains" and then "you must forbear your activity" (II, 332). He likens this principle to "that law of nature by which we now inspire, now expire the breath; by which the

heart now draws in, then hurls out the blood,--the law of undulation" (II, 332). It also resembles the pattern of hemispheric functioning characterized first by the emission of beta and then of alpha brain-wave rhythms.

The brain wave associated with understanding-like activity--"inspiring" or drawing in knowledge--is the beta rhythm. Beta (and high-frequency alpha) waves, occurring at 13-26 and 10-13 cycles per second, respectively, accompany conscious waking states in which the attention is focused outward, absorbing and analyzing incoming impressions.² Low-frequency alpha rhythms (8-10 c/sec), on the other hand, are associated with conscious states characterized by a relative inactivity of hemispheric processes. For example, more low-frequency alpha is found over the right hemisphere during verbal and analytic tasks (which are performed with greater intensity and skill by the left hemisphere), while more beta emission occurs over the left hemisphere during these same tasks. These findings indicate that low-frequency alpha is connected with slowed or decreased mental activity. For this reason, alpha is frequently referred to as the "idling" rhythm, detected over that area of the brain which is relatively inactive compared to that over which are found beta rhythms.³

²David Rorvik, "The Theta Experience," Saturday Review of the Sciences, 1 (1973), 49; Alyce and Elmer Green, "Voluntary Control of Internal States: Psychological and Physiological," Journal of Transpersonal Psychology, 2 (1970), 10.

³Galin, p. 573.

The initial intellectual foraging of understanding may be likened to the beta state of the left hemisphere as it performs a task for which it is particularly suited, such as the step-by-step apprehension of a printed argument. Reason, meanwhile, compared to understanding, exists in a kind of alpha state, its activity decreased both by its relative weakness at analytic study and by understanding's suppression of any contributions it might make. The beta-alpha pattern is representative of the general day-to-day relationship of understanding and reason, with understanding laboring away in the material world and reason functioning as best it can in its starved and oppressed realm of thought.

When understanding is finally stilled during the second phase of undulation, the intellect as a whole is relaxed in a state of "non-thought," similar to the state of mind accompanying generalized, interhemispheric alpha emission. Like the Emersonian forbearance, generalized alpha occurs when an individual is conscious but "stilled."⁴ Also like its Emersonian analogue, interhemispheric alpha emission is difficult to achieve and maintain, but it has been evoked by meditators and trained experimental subjects, who describe the alpha state as a "relaxed vigilance" that is "serene, pleasant, and devoid of imagery," as "tranquil, calm, alert," as "non-analytic," and as "not thinking."⁵ What is consistently

⁴Rorvik, p. 49.

⁵Joe Kamiya, "Conscious Control of Brain Waves," Psychology Today, April 1968, p. 58.

reported as the key to attaining the alpha state is the relaxation of the critical faculties characteristic of the left hemisphere, particularly in situations of quiet and isolation not unlike those Emerson describes.⁶ Thus, just as overall alpha emission is attained by relaxing the mind, and especially the left hemisphere, so is undulation complete when understanding is deliberately stilled, resting in a momentary calm.

But how and why are understanding and reason transformed from two separate, idling powers into Intellect Receptive? Emerson consistently argues that undulation is preparatory to attaining insight, but the cause and effect relationship he does not speculate upon. Meditators also describe the alpha state as a "preliminary, mind-quieting imageless state in moving toward a deeper state," but offer no further explanation.⁷ The correlation between undulation and epiphany in Emerson's thought is clear, and the underlying basis of this close relationship may be deduced from studies of the altered states that follow alpha emission.

Before examining this analogy, however, it is first necessary to treat another important question that arises in the study of Emerson's theory of intellect--that is, what exactly is an epiphany? Just what is it that understanding

⁶Pelletier, p. 112.

⁷Green and Green, p. 12

and reason become after their period of rest? Again, similarities among the two hemispheres and reason and understanding point to some answers.

The dominance of the left hemisphere over cognition, while adaptive in some situations, clearly interferes with the brain's inbuilt capacity for two-headed thinking. Cliche or not, two points of view, two independently arrived-at solutions to a problem, allow for more comprehensive and creative thinking. The most desirable hemispheric relationship is one in which the hemispheres are "fully active and integrated with each other."⁸ In this relationship, "the usually asynchronous activity of the hemispheres becomes synchronous, making available to the individual the full potential of both hemispheres."⁹ The hemispheres' electrical rhythms would also undergo a change upon integration, but not, as one might think, from beta/alpha to beta/beta. Rather, the union of conscious and unconscious processes creates a qualitatively different mental activity characterized most probably by the emission of theta rhythms (4-7 c/sec).

Although theta rhythms have not been determined experimentally to occur during hemispheric integration, this seems a likely hypothesis. For example, meditators who claim during their practice to unite conscious and unconscious minds emit mind-quieting alpha at the beginning of their meditations.

⁸ Galin, p. 575.

⁹ Pelletier, p. 110.

But, as they begin to move into deeper, trance-like states, the frequency of the alpha pattern decreases toward the alpha-theta border region and finally becomes long trains of a low voltage, diffusely spread theta rhythm.¹⁰ Other indications that hemispheric integration and theta rhythms are correlated are the subjective perception of imagery during both experiences as well as the association of insight with the two phenomena.¹¹ It does not seem implausible to link hemispheric integration and theta rhythms, but theta state or hemispheric integration, each brings with it increased mental power qualitatively different from "normal" conscious thought.

The analogous relationship between the hemispheres and reason and understanding suggests a similar synthesis of Emerson's "mutual antagonists" during an epiphany. In light of the hemispheric hypothesis, many of Emerson's statements about the nature of Intellect Receptive begin to indicate just such a possibility.

In Nature, Emerson writes that inspiration marks "Reason's momentary grasp of the sceptre," (I, 73), implying that Intellect Receptive consists of reason towering over a submissive understanding. His denunciation of understanding as a "low, liminary power" coupled with his praise of reason might lead one to conclude that Emerson advocates a coup d'etat

¹⁰Green and Green, pp. 12-13.

¹¹Green and Green, pp. 12-20; see also Rorvik, pp. 46-51.

by reason with a subsequent abandonment of understanding to the beasts. To bring reason to dominate intellect, however, would only create a new imbalance of power and form, this time of spiritual concerns over material ones. For example, Emerson writes, if the scholar thinks with reason alone, his philosophy "will appear too vague and indefinite for the uses of life" (I, 182). More consistent with Emerson's own philosophy is the proposal that Intellect Receptive consists of a synthesis of understanding and reason.

Inspiration, Emerson says, is the "power to carry on and complete the metamorphosis of natural into spiritual facts" (VIII, 271). To perform this transformation, one must have the powers of understanding to ascertain the natural facts as well as the vision of reason to perceive the analogy that marries the physical to the spiritual law. The transcendentalist, who has attained the vision of the epiphany, sees events as "spirits." "He does not deny the sensuous fact: by no means, but he will not see that alone" (I, 330). The value of thinking simultaneously with reason and understanding Emerson describes eloquently in "Poetry and Imagination": "To every plant there are two powers; one shoots down as root, one upward as tree. You must have the eye of the scientist to see in the seed its nodes; you must have the vivacity of the poet to perceive in the thought its futurities" (VIII, 71).

Just as the highest thought stems from the collaboration of the two hemispheres, so is the Emersonian epiphany a harmonious integration of two different but equally skilled

minds. Like the repressed right hemisphere, reason emerges from the unconscious to "grasp the sceptre" of awareness, but it neither tyrannizes over understanding nor offers its insights to the ear of awareness independently of its logical counterpart. Rather, reason and understanding are "reconciled" during the epiphany (I, 354). First and second sight unite to create a power that is literally "an intellect doubled on itself" (III, 26).

Realizing that the Emersonian epiphany occurs when the double consciousness is reconciled into one, it is easier to see, with the aid of the hemisphere model, how the law of undulation might allow for the liberation of reason and the synthesis of the two faculties. From their research with commissurotomy patients, Joseph and Glenda Bogen believe that hemispheric communication across the corpus callosum may be the key to integrating the two independent streams of consciousness.¹² As was noted earlier, one of the most likely ways in which the left hemisphere gains control of awareness is by preventing, with neuronal excitation, right hemisphere information from crossing the corpus callosum and entering the "conscious" left hemisphere. Left hemisphere activity, by inhibiting communication between the hemispheres, also inhibits their integration into a higher intelligence. Relaxing the left hemisphere would therefore allow the products

¹²"The Other Side of the Brain III," p. 199-202.

of the right hemisphere to gain access to its companion, leading to a "bilateral information exchange that would be subjectively reported as an 'aha' experience, or one of significant insight."¹³

Communication between understanding and reason may be the foundation for reconciliation in much the same way that it is for the hemispheres. Relaxing understanding during the second half of undulation might allow the suppressed reason to function more freely and to submit its point of view to the conscious mind. The insights of reason would then merge with those of understanding, creating a fruitful exchange of physical and spiritual truths.

The fundamental nature of the epiphany is always the same, Emerson believes, although it may range in intensity from "an ecstasy and trance and prophetic inspiration-- which is its rarer appearance--to the faintest glow of virtuous emotion" (II, 281). It is the more trance-like epiphany that attracts Emerson's interest, perhaps because it marks the greatest degree of transcendence of daily, material experience. In Nature, for instance, Emerson recounts the ecstasy of his "transparent eyeball" experience, noting particularly the sensation of being divorced from the external, the everyday: "All mean egotism vanishes . . . the name of the nearest friend sounds then foreign and

¹³Pelletier, p. 110.

accidental" (I, 10). Similar trance-like effects accompany the epiphany he describes in "Intellect." "We have little control over our thoughts. We are the prisoners of ideas." During this intense epiphany, we are caught up and so fully engaged that "we take no thought for the morrow" (II, 328-329).

The disorientation that accompanies these epiphanies may be better understood when compared to the theta state of consciousness. Unlike beta rhythms, which are associated with outwardly focused attention, or alpha rhythms, which indicate idle, diffuse attention, theta emission signifies a decline in cortical vigilance, with inwardly focused attention and a corresponding decrease in awareness of the external environment.¹⁴ Hemispheric integration, with its accompanying theta waves, thus brings with it a new focus of attention. Similarly, the intense Emersonian epiphany creates a trance-like state in which attention is shifted from the external world to the center of consciousness.

Emerson also notes that the insight attained during an epiphany may vary, from a "religious impulse" to an "intellectual insight" (VIII, 272). On the basis of this statement, Frederic Carpenter proposes two types of Emersonian epiphany, one religious and one aesthetic.¹⁵ Depending upon the

¹⁴Daniel L. Schacter, "EEG Theta Waves and Psychological Phenomena: A Review and Analysis," Biological Psychology, 5 (1977), 49; Rorvik, p. 49.

¹⁵Emerson Handbook, pp. 116-117.

"character of the individual"--his desires and field of knowledge--the specific insight will vary, perhaps occurring as a religious apprehension of a moral lesson in Nature, or as an image for transformation into a poem. But regardless of the school of thought to which the insight applies, it almost always occurs as a vision. The epiphany, Emerson writes, is the "hour of vision"; from an alien energy come "visions" (II, 268). The highest power of intellect is linked with "visions of absolute truth" (I, 164). And after an epiphany, "we bethink . . . what we have seen . . . what we have beheld" (II, 328).

This consistently visual quality of insight as described by Emerson may be similar to the images that occur during the synthesis of the hemispheres. The right hemisphere, it will be recalled, thinks primarily with images. Communication between the hemispheres would allow the imagistic thoughts of the right hemisphere to enter conscious awareness, accounting for the perception of imagery during the moments of integration.¹⁶ The appearance of imagery during the union of the hemispheres is further indicated by studies of theta states. Alyce and Elmer Green find that periods of theta rhythm emission are consistently associated with images that "spring into the mind 'full blown.'"¹⁷ These

¹⁶Bogen and Bogen, p. 199.

¹⁷Green and Green, p. 13.

visions are distinguished from dreams and daydreams by their vividness and realism.¹⁸ Theta imagery is actually most like that perceived during the very early stages of sleep-- either immediately before sleep (hypnagogic images) or after waking (hypnapompic images). For this reason, theta imagery is called "hypnagogic-like" by most researchers. The association between theta rhythms, a united consciousness, and imagery leads the Greens to conclude that the theta state "is of unusual significance because it is associated with hypnagogic imagery in which unconscious processes are often revealed to the waking self in symbols, words, or gestalts."¹⁹

In the same way that the union of conscious and unconscious minds during hemispheric integration allows for the intrusion of imagistic processes into awareness, the union of understanding and reason allows for a similar type of convergence of the analytic and the visual. Emerson connects the highest power of intellect with "visions of absolute truth" (I, 164); the scholar's "thoughts" are thus told in "pictorial images" (I, 159). Since reason is particularly adept at symbolic, figurative thought, it may be that its emergence into conscious awareness is responsible in part for the visual nature of insight.

¹⁸Peter McKellar and Lorna Simpson, "Between Wakefulness and Sleep: Hypnagogic Imagery," British Journal of Psychology, 45 (1977), 270.

¹⁹Green and Green, p. 14.

The correspondences among Emerson's epiphanies and the mystical experiences of meditators and experimental subjects serve, first of all, to illustrate the principles of Emerson's theory of intellect. Science provides parallels to his law of undulation, pointing to a possible working value of intellectual laboring and forbearance. Science also helps define Emerson's epiphanies as moments when understanding and reason synthesize, not as times when reason lords gloatingly over common sense. Hemispheric theories also provide a possible explanation of the visions of the epiphany. When modern scientific findings are used in this way to illustrate Emerson's ideas, his theory of intellect and epiphany not only becomes clearer but more complete. Like reason and understanding, the insights of Emerson and science unite to form a "temperate zone" of thought.

CHAPTER IV

THE DOMINANCE OF REASON

Emerson's epiphanies constitute a state of consciousness different from typical waking awareness. In daily thought, understanding rules the intellect, suppressing reason so that its unique insights into spiritual reality are unconscious. During an epiphany, however, understanding and reason work as equals in the conscious mind, creating an "enlarged power" that is able to "carry on and complete the metamorphosis of natural into spiritual facts" (VIII, 271).

The fact that inspiration entails such a marked departure from the "normal" state of consciousness arouses skepticism, Emerson believes, in "thoughtless" men, who deem "speculative" men "unsound and frivolous" (I, 4). Emerson himself, though he does not doubt the legitimacy of the transcendent experience, nevertheless acknowledges its similarity to other less spectacular and frequently less desirable states of mind. For example, he notes that in the "chief experiences of religious illumination somewhat morbid has mingled, in spite of the unquestionable increase of mental power" (IV, 97). In his list of examples of men working upon nature "with reason as well as understanding" he includes children (I, 73). And, like

the transcendentalist during his epiphany, the sleeper may gain from his dreams "many hints that will broaden and lighten into knowledge of the secret of nature" (II, 270).

Other than proposing that insane tendencies result from a particularly explosive opening of the "religious sense" or reason in men (II, 281-282), Emerson does not discuss the differences between the intellect of the child or the dreamer and that of the transcendentalist. Yet differences must have been evident to him, because he clearly values the epiphany over the other experiences. The fact that Emerson devotes so much of his energy to comprehending and cultivating the particular state of consciousness associated with inspiration indicates that he finds the epiphany superior to--and different from--these other conditions. Had he not made such a distinction, it seems he would have urged men only to dream or perhaps have turned to child worship as did other romantics. We do not know exactly how Emerson separated these four states of consciousness in his own mind, but several clues arise from his scattered references to them.

Particularly helpful in understanding Emerson's all-too-brief comments is modern neurophysiology, which sheds light upon both the similarities and differences among these states. The psychophysiological correlates of hemispheric integration and sleep, psychosis, and childhood reveal a fundamental similarity among them. Each is marked by the presence of normally unconscious processes in

conscious thought, a finding consistent with Emerson's own observations. With this initial correspondence between Emerson and science established, it is possible to deduce, on the basis of neurology and Emerson's comment upon the etiology of insanity, the important difference between the Emersonian epiphany and the other three mental states. Physiological parallels suggest that, in Emersonian terms, reason dominates the intellects of the sleeper, the madman, and the child, whereas in the inspired mind it synthesizes with understanding in a delicate balance of power and form.

It will be recalled from Chapter Three that theta rhythms correlate with the union of the processes lateralized in the two hemispheres of the brain and thus denote a state of intellectual prowess comparable to the Emersonian epiphany. These same brain-waves, however, are also associated with sleep, psychosis, and childhood. They occur during the rapid eye-movement (REM) stage of sleep, and they dominate the EEG's of children from infancy until age ten or eleven.¹ Theta rhythms are also associated with pathological disorders such as episodic rage, psychopathic behavior, and high hostility.² The theta wave thus provides a clue to the underlying similarity of all of these states of consciousness, signaling that in each, the right hemisphere's paralogical, imagistic thoughts, normally restricted from conscious

¹Schacter, p. 51; Pelletier, p. 163.

²Pelletier, p. 164.

awareness, are present in the conscious mind.

To Emerson, the entrance of the unknown power of thought--of reason--into awareness also links the epiphany with the three other states of consciousness. He writes, for instance, that in dream-sleep "we let our will go and let the unconscious states ensue" (II, 337). Individuals who are "blasted" with an "excess" of reason's light may become insane (II, 281-282); and the mind of the child is "pervaded by the element of reason."³

Modern science and Emerson agree that these four intellectual states are marked by the workings of unconscious processes in the conscious mind. Emerson does not equate the four conditions, regardless of this basic similarity; but he does not explain how they differ either. Modern science, however, does describe the differences between hemispheric integration and the other states of mind, thereby providing an analogy by which we may distinguish Emerson's epiphanies from other "mental moods."

Although hemispheric integration, sleep, psychosis, and childhood are marked by the brain-waves of the theta frequency band (4-7 c/sec), each of them is distinguishable from the other on the basis of this fact. That is, each

³The Early Lectures of Ralph Waldo Emerson, ed. Stephen E. Whicher, Robert E. Spiller, and Wallace E. Williams (Cambridge: Harvard University Press, 1964), II, 247. All references are to this edition and hereafter will be cited parenthetically in the text by the abbreviation EL and volume and page number.

state has its own particular theta wave variant characterized by certain electrical eccentricities. A. Kasamatsu and T. Hirai discovered in their study of the EEG's of Zen meditators that the subjects in their deep, trance-like reveries emit long waves of theta that differ in rhythm and amplitude from other known theta rhythms.⁴ The thetas of REM sleep, psychosis, and childhood are easily distinguishable from one another and, according to Kasamatsu and Hirai, from the thetas of hemispheric integration as well. Because brain-wave variations accompany psychological changes, different theta rhythms indicate psychological differences between each of the four states of mind. The Kasamatsu/Hirai theta is closely correlated with a balanced synthesis of conscious and unconscious thought. The thetas of sleep, psychosis, and childhood, though indicative of unconscious ideation in awareness, point to a different relationship between the hemispheres than in daily thought or during hemispheric integration.

Some psychologists, for example, theorize that psychosis is characterized by the domination of thought and behavior by processes that are usually restricted from the conscious mind. Arthur J. Deikman, who analyzes the mystical experience in terms of modern psychology, hypothesizes that both the mystic and the psychotic undergo sudden shifts in con-

⁴Schacter, p. 51.

sciousness that arise from a situation in which they struggle with a problem, come to an impasse, and abandon intellectual laboring. But whereas the mystic then experiences the peaceful integration of conscious and repressed minds, the psychotic is unable to integrate successfully the two modes of thought, possibly because his normally conscious processes simply collapse. Without the faculties of logic and language to temper the visual, paralogical ideations of which he is suddenly aware, the psychotic's reality is chaos.⁵

Silvano Arieti also believes that both the mystic and the psychotic experience a resurgence of non-verbal, primary processes into the conscious mind, which is dominated by the analytic secondary process. Because of the literal imbalance of primary over secondary processes that subsequently occurs within the mind of the psychotic, his experiences are markedly different from those of the mystic, whose processes are integrated. Both individuals, for instance, experience visions; but whereas the mystic's are gratifying, the psychotic's arouse fear, hostility, and paranoia.⁶

⁵Arthur J. Deikman, "Bimodal Consciousness," in The Nature of Human Consciousness, ed. Robert E. Ornstein (New York: Viking Press, 1974), pp. 67-87.

⁶Arieti, pp. 251-256.

The proposals of Deikman and Arieti, supported by EEG tracings, indicate that one important difference between insanity and hemispheric integration lies in the unswerving rule of the usually unconscious mind over the psychotic's intellect. In light of this psychological model, Emerson's comment that "a certain tendency to insanity has always attended the opening of the religious sense in men, as if they had been 'blasted with excess of light'" (II, 281-282) takes on a new meaning. That is, the mind of the madman or near-madman may be overpowered by reason as it bursts into awareness during the transcendent experience. "The trances of Socrates, the 'union' of Plotinus, the vision of Porphyry, the conversion of Paul, the aurora of Behmen, the convulsion of George Fox and his Quakers, the illumination of Swedenborg, are of this kind" (II, 282). Each of these men, in Emerson's view, had a religious epiphany after which they exhibited "a certain tendency to insanity," which to Emerson means fanatical reliance upon a single guiding idea. What Emerson sees "in the case of these remarkable persons" is "a ravishment" (II, 282). Ravish means, of course, to "enrapture," but it also denotes "seizing and taking by force." Emerson implies here that the intellects of these men have been raped in a sense, or overpowered during their mystical states. His comment indicates that it is reason, the bearer of the "religious sense," that ravishes these men and dominates their minds.

The religious epiphany does not, however, always leave a morbid imprint upon its subject: "What was in the case of these remarkable persons a ravishment, has, in innumerable instances in common life, been exhibited in less striking manner" (II, 282). One such example is Martin Luther, who with his "mighty heart and excessive Imagination is in danger of insanity, and, in such circumstances as he fell upon, of a Mohammedan fanaticism" (EL, I, 135). Emerson asks even before we can, "How is it that he escapes all tinge of this madness and presents as the image of a simple erect Man?," and he answers: "The healing principle, the balance-wheel that kept these dangerous powers from extravagant motions was his warm social affections" (EL, I, 138). In Luther, the "dangerous powers" of reason, of spiritual and moral insight, were balanced by those of understanding, for it is the common-sensical, worldly guidance of understanding that enables men to show the social affections. It is also important to realize that Emerson additionally praises in Luther his temperance of the introspective epiphany with action in society.

Insanity or even insane tendencies thus signify to Emerson a literal imbalance of intelligences within the mind, in particular the dominance of reason over understanding. Individuals who become what Emerson would call religious fanatics may have originally possessed a weakened understanding, which would become subservient to reason, perhaps crumbling under its force. These men would live

in a world of visions of spiritual reality with little or no relation to the material world. Many of their thoughts would contain truths about Nature, but their alienation from the physical portion of creation makes them half-truths. Emerson speculates that the "disease and deformity around us, certify the infraction of natural, intellectual, and moral laws" (EL, II, 330). The law of intellect, as of Nature, is wholeness, balance, and reconciliation. An infraction of this law, by the extreme dependence upon reason, understanding, or any of the other faculties of the soul, violates the character of intellect. "Our keenest enjoyments tremble" in a "state of menace," threatened perhaps by a tottering understanding or a too powerful reason (EL, III, 108).

Another state of consciousness Emerson believes to be characterized by the presence of reason is sleep, for the dream clearly reveals reason's symbolic laws of thought. One of the singular traits of the dream is its visual imagery. When we dream, Emerson points out, we see what "cunning draughtsmen we are! We entertain ourselves with the forms of men, of women, of animals, of gardens, of woods and of monsters" (II, 337). We dream "forms," not printed treatises. The poet's gifted ability to think and write with images Emerson calls a "dream-power" (III, 40). The average man has "one key to this miracle of the poet--one key, namely, dreams" (VIII, 44).

Also like the vision of an epiphany, the dream can be the bearer of knowledge. Occasionally, perhaps "two or three times in his life," man will "owe to sleep and dreams a certain divination and wisdom" (EL, III, 155, 153). In dreams, "wise and sometimes terrible hints shall . . . be thrown to the man out of a quite unknown intelligence" (EL, III, 155). Despite these similarities between the epiphany and sleep, they are not identical. The differences between the two are indicated by the physiology of sleep.

Although almost no experimental attention has been given to the roles of the hemispheres during dreaming, it seems likely that the right hemisphere dominates the activity. As David Galin explains, the predominant mode of cognition during dreaming--consisting mainly of "nonverbal, image representations, with nonsyllogistic logic, and violations of ordinary temporal sequencing"--is primarily of the right hemisphere type.⁷ The preeminence of the right hemisphere during dreaming might occur because of the nature of sleep, which entails a greater relaxation of left hemisphere activities than occurs, for example, during the non-thinking state preliminary to hemispheric integration. During the period of relative left hemisphere inactivity when we sleep, the right hemisphere "might seize the opportunity to express itself."⁸ The extreme relaxation of the

⁷Galin, p. 577.

⁸Galin, p. 577.

left hemisphere during sleep does not allow for a harmonious fusion of the mind's powers, but instead creates a situation in which the right hemisphere attains dominance. The particular theta variant that distinguishes REM sleep from the state of hemispheric unity is thus indicative--just as is the theta of psychosis--of an unequal relationship between conscious and unconscious minds.

Theories that the right hemisphere's activities are dominant during dreaming suggest that a similar imbalance might distinguish Emerson's epiphanies from dream-sleep. First of all, although Emerson likens the epiphany and the dream by declaring that "a dream may let us deeper into the secret of nature than a hundred concerted experiments" (I,66-67), such insight is the exception rather than the rule. Most dreams, Emerson writes in "Demonology," are confusing and nonsensical, with a "dislocation" of the physical laws of time and space being "the foremost trait of the dream" (EL, III, 153). The chaotic visual experience that a dream usually is leads Emerson to describe it as a "phantasmagoria" and a "spawn and limbo and dusthole of thought" (EL, III, 155, 153). It is pleasantly surprising that a dream "should be presided over by a certain nature and reason too; that we should recognize therein ourselves; that we should owe to sleep and dreams a certain divination and wisdom" (EL, III, 155). So unreliable are dreams as diviners that Emerson concludes, "They are entitled only to a share of our attention, and that not a large share" (EL,

III, 168). The typically dislocated, confusing nature of the dream, with its symbolic representations but almost total lack of adherence to the laws of the physical world, indicates that reason's laws of thought govern the dream. A near-paralysis of the conscious understanding during sleep is likely, and if it does occur, would allow reason's processes to govern the intellect. That dreams are more fruitful than the hallucinations of the madman indicates that understanding may sometimes lend logic and order to reason's insights, perhaps during a light state of dream-sleep in which understanding's powers are not yet diminished. In the dream, as in the epiphany, man is made aware of a hitherto "unknown intelligence" within him. But reason alone, without its complement understanding, offers man spiritual insights far removed from his "conditioned" need to perceive in order and in succession.

Along with the "miracles of enthusiasm," Emerson cites the "wisdom of children" as another instance of the application of both reason and understanding to Nature. The mind of the child, like the mind of the transcendentalist, is whole:

That divided and rebel mind, that distrust of a sentiment because our arithmetic has computed the strength and means opposed to our purpose, these have not. Their mind being whole, their eye is as yet unconquered, and when we look in their faces we are disconcerted. (II, 48)

Emerson critic Joseph Baim argues that Emerson values this early unity of consciousness to the point that the

child becomes his symbol for the "properly constituted mind."⁹ But is the child's mind exactly the same as that of the adult who experiences an epiphany? The fact that the child's intellect is not divided into conscious and unconscious, that it is "pervaded by the element of reason" (EL, II, 247), renders it similar to the intellect during inspiration, which too has become whole. Nevertheless, there are important differences between the inspired adult and the child that become evident in the light of brain physiology.

From infancy until about ten or eleven, the child's EEG is characterized by theta wave rhythms, which indicate that the child is aware of thoughts and functions that in the adult are usually unconscious. The emission of theta rhythms during childhood is consistent with theories of developmental psychology that propose that the child's consciousness is dominated by nonverbal, imagistic processes characteristic of the right hemisphere.¹⁰ This inversion of the typical relationship of the hemispheres in the adult is accounted for by the fact that the young child's left hemisphere has not fully acquired the skills of language and logic that enable it to dominate the right. The child's relative lack of left hemisphere ability also renders him much less able than an adult to increase the meaning and

⁹Baim, p. 24.

¹⁰Deikman, p. 69; Arieti, p. 182.

significance of right hemisphere percepts through language, abstraction, and logic.¹¹

Because the processes of understanding and reason are similar to those of the hemispheres, it is plausible to suggest that understanding and reason in the mind of the child, though undivided, are not "properly constituted" as Bain suggests. Of course, some of the characteristics of the child's perception are aligned with those of the inspired adult. Both stand patiently watching reality unfold before them; both are piously receptive and reverently appreciative of creation with the "freshness of sensation" that Emerson admires; and both sense the oneness of all being.¹²

The most important quality shared by the child and the transcendentalist is their awareness of mental powers that in the typical adult are unconscious. During the epiphany, the adult "return[s] to reason" (I, 9); he "casts off his years, as the snake his slough, and at what period soever of life is always a child" (I, 9). Emerson's statement that the adult during an epiphany becomes like a child and returns to reason implies that the child too thinks with reason. Emerson directly states this fact in an early lecture: "In a higher sphere of rational life dwells the

¹¹Arieti, pp. 182-183.

¹²See a discussion of the qualities of the child's vision in Bain; see also Tony Tanner, The Reign of Wonder (Cambridge: University Press, 1965), especially pp. 1-10.

infant man. . . . The child is pervaded by the element of reason" (EL, II, 247). This pervasion has a marked effect: "The child lives with God and as pervaded by this high mind is animated by a certain power and sublime spirit which attracts the perpetual reverence of men" (EL, II, 247).

The child's mind is thus whole. Understanding and reason have not yet divided into conscious and unconscious powers, as they will as the child matures.¹³ At the same time, however, the child's understanding is far less developed than his reason so that, although both are conscious, reason is the dominant power of thought, as Emerson points out. "The child is pervaded by the element of reason but does not in his first years individualize more than the brutes" (EL, II, 247). Reason sees only wholeness and unity, and would not divide the subjective consciousness of the child from the rest of creation. It is understanding, with its emphasis upon classification and separation, that first gives the child the power to distinguish the Me from the Not Me. Understanding's ability to make this crucial distinction comes only after "tedious training" (I, 37) which, according to Emerson, is not complete until the child is about two or three years old (XII, 60). By this age, understanding equals reason in its development, and the child has the potential for complete apprehension of both the spiritual and the physical world. Reason, already mature, informs

¹³See Chapter Two of the present study, pp. 28-30.

him of his tie to Nature, while the quickly ripening understanding tells him of his unique individuality. But at this potentially beatific age, the disease of separation begins in the Intellect, for reasons which Emerson cannot explain (XII, 60). The understanding begins its ascendancy to power as soon as the "youth of the universe" has uttered "I." He then

transfers this me from that which it really is, from the sublime soul within him, from pure Truth and pure Love, to the frontier region of effects in which he dwells, to his body and its appurtenances, to house and land, to name and place and time, to the fugitive and fleeting effects. . . ." (EL, II, 248)

Emerson does not, however, believe that men should become totally un-self-conscious like the young child who has yet to say "I." When Emerson writes in Nature that, as a transparent eyeball, all of his "mean egotism vanishes," he does not mean that he loses awareness of himself as an individual. He sheds only the mean egotism that prevents him from seeing himself as an integral part of creation. As a "transparent eyeball," with the vision of understanding and reason, he is simultaneously aware of his individuality and of his kinship with all of Nature. The "depravity of man," then, lies not in his self-awareness, but in his tendency "to allow the near and sensible to daunt and master him, to converse more with matter than with the soliciting soul" (EL, II, 248). The dominance of understanding in the uninspired adult creates this depravity, but Emerson nonetheless does not call for the child-like dominance of reason as an antidote. Rather,

he urges men to imitate only the child's freshness of sensation, his receptivity to Nature, and his reliance upon all his faculties of thought.

The tie that binds the unlikely foursome--sleep, insanity, childhood, and the Emersonian epiphany--is the presence in the conscious mind of the usually suppressed and ignored reason. But in three of these states of consciousness, reason becomes the sovereign power of the intellect. A fundamental principle of Emerson's thought is unity, reconciliation, and balance; and the dominance of reason is as much a violation of that principle as the tyranny of understanding. Man's intellect attains its ideal state of harmony and synthesis only during the epiphany, when the antagonistic forces of understanding and reason unite in a "supreme moment" of peace.

CHAPTER V

EMERSON'S VISION

In the preceding chapters I have demonstrated two things, first, that an analogy exists between modern science's and Emerson's theories of the laws and powers of the human intellect. Both Emerson and neurophysiologists propose that two antagonistic ways of thinking--one logical and one intuitive--coexist within the mind. They argue that the logical faculty usually dominates man's thinking, forcing the intuitive mind into the fringes of consciousness. And, scientists and Emerson alike believe that the two faculties of intelligence should, and occasionally do, reconcile to form a higher power of thought. Neurophysiologists ascribe the two powers of the mind to the left and right hemispheres of the brain; Emerson describes abstract forces of intellect, understanding and reason. Scientists talk about left hemisphere dominance, Emerson about "the tyranny of the understanding." The rare union of the two poles of intellect scientists call "hemispheric integration"; Emerson terms it "inspiration" or "enthusiasm." And finally, both see connections between their respective epiphanies and the states of consciousness of sleep, insanity, and childhood.

These correspondences between the principles of Emerson's and neurophysiologists' theories of intellect lead me to my second point, which throughout this paper has been that we can draw upon current models of human intelligence to help us understand what Emerson means when he describes, for example, a "double consciousness in man" or when he says he became a "transparent eyeball." Emerson himself employs a similar technique when he illustrates his assertions with analogues from natural science. It may seem that he uses the facts of science as proof of his intuitive apprehensions as when, for example, he says that intellectual science points to the primacy of Spirit (I, 56). Emerson does not, however, believe that his insights require proof from empirical science; his intuited knowledge, in his view, is every bit as "true" as any "fact" arrived at in a rigorously controlled experiment. Emerson does use scientific information, though, as a tool to illustrate by metaphor or analogy his philosophical assertions. When he likens undulation to that "law by which we now inspire, now expire the breath," he invites comparison between the two activities. Alert readers will not only come to understand the principle of undulation by logically applying their own experience to it, but they will also see that undulation is a natural rhythmic process, either part of which is the end and the beginning of the other.

The physiology of human intelligence likewise serves as a model alongside which Emerson's ideas can be placed. Aligning the two theories first of all enables us to see possible illustrations of his laws and powers of intellect. Studying Emerson in conjunction with modern science can also allow the occasional transference of a principle from one to the other. We can use our powers of reasoning to deduce, "If this occurs between two opposed faculties of thought like the hemispheres, perhaps something similar occurs between understanding and reason." In the light of neurophysiology, many of Emerson's abstract or downright confusing statements about the human intellect become clearer, with the result that students of Emerson have a better idea how reason becomes unconscious, why the epiphany is a synthesis of understanding and reason, and in what way the visions of inspiration differ from dreams or from a madman's hallucinations.

But other questions about Emerson's theory of intellect remain. For example, he asserts that during the epiphany, man perceives an utterly new world. The vision of the transcendent experience "seems to direct a regard to the whole and not to the parts" (I, 211), so that the transcender perceives the "unity of Nature,--the unity in variety" (I, 43). Yet this new world-view, which Emerson describes in paradoxical statements like "Behold these infinite relations, so like, so unlike; many, yet one" (I, 120), or "Things are, and are not, at the same time"

(III, 245), appears contradictory to those of Emerson's readers who do not have the benefit of his complete vision. What can enlighten confused students are, of course, specific illustrations of Emerson's monistic principles, which he readily provides when natural science offers an appropriate complement. The fundamental tenets of nineteenth century science, however, maintained the Cartesian distinction between mind and matter. It assumed a reality composed of discrete things and events, separate from and independent of man, that he could objectively observe and describe. The physics of his own day was not likely to provide Emerson with examples demonstrating the principle of "unity in variety." Twentieth-century physics, however, departs from many of the assumptions of classical physics, postulating instead a model of a dynamic, interconnected universe in which man is a participator, not an isolated, objective observer. The ontological agreement of twentieth-century physics with Emerson renders its models of nature much more compatible with Emerson's thought and hence better able than traditional science to supply enlightening illustrations of his spiritual truths.

In "Intellect," Emerson writes that the insight of an epiphany is a "miracle . . . which must always leave the inquirer stupid with wonder" (II, 334). He who through the eyes of understanding has seen nature divided and disunited will see miraculously that "the world lies no longer a dull miscellany and lumber-room, but has form and order;

there is no trifle, there is no puzzle, but one design unites and animates the farthest pinnacle and the lowest trench" (I, 111-112). Inspiration thus teaches that "A leaf, a drop, a crystal, a moment of time, is related to the whole, and partakes of the perfection of the whole" (I, 43).

Emerson characteristically illustrates the principle of the unity of Nature with scientific analogies. His most elaborate use of contemporary science to this end appears in "Farming":

Science has shown the great circles in which Nature works; the manner in which marine plants balance the marine animals, as the land plants supply the oxygen which the animals consume, and the animals the carbon which the plants absorb. These activities are incessant. Nature works on a method of all for each and each for all . . . You cannot detach an atom from its holdings, or strip off from it the electricity, gravitation, chemie affinity or the relation to light and heat and leave the atom bare. No, it brings with it its universal ties. (VIII, 143)

The principle of unity and dependence even at the level of the atom is the dominant theme of quantum physics. As scientists probed for the ultimate particles of matter in the firm Democritean belief that nature would be found to be composed of discrete independent building blocks, they found it instead to be a web of interrelationships more complex than even Emerson describes. David Bohm writes in Space-Time and Beyond from the physicist's point of view:

A quantum many-body system cannot properly be analyzed into independently existing parts. Rather, the 'parts' are seen to be in immediate connection, in which their dynamical relationships depend, in an irreducible way, on the state of the whole system.¹

This "unbroken wholeness" is demonstrated when physicists attempt to predict the position of an electron in its orbit around the nucleus of an atom. They find themselves able to describe the particle's location in probabilities only. This inability to predict position with certainty is not due to a shortcoming in technology, but is a basic feature of the subatomic world. Because the position of the electron depends upon multitudes of variables, including the force binding it to the nucleus, the influence of other electrons in the atom, and the interaction of that electron with subatomic particles in the surrounding environment, it is impossible to speak of a particle as a discrete object.² In Emerson's words, which may now have a more significant meaning, "All things are in contact; every atom has a sphere of repulsion" (III, 245).

"Things are so strictly related," Emerson writes, "that according to the skill of the eye, from any one object the parts and properties of any other may be predicted" (III, 182). For example, "The smoothest curled courtier in the boudoirs of a palace . . . is directly related, there amid essences

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(New York: E. P. Dutton, 1975), pp. 134-135.

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Fritjof Capra, The Tao of Physics (New York: Bantam Books, 1977), pp. 120-121.

and billets-doux, to Himmaleh mountain-chains and the axis of the globe" (III, 182). In modern physics, Emerson's principle of the macrocosm in the microcosm is illustrated by Mach's law, which states that the mass of a single particle is determined by the mass of the entire universe,³ That is, one subatomic particle contains information about the cosmos as a whole. Emerson's own version of Mach's law is more poetic: Man finds that the universe was "'made at one cast'; the mass is like the atom,--the same chemistry, gravity and conditions. . . . As language is in the alphabet, so is entire Nature, the play of all its laws, in one atom" (VIII, 224).

In the mid-nineteenth century, Emerson also argued the relativity of space and time, although he knew that the "influence of the senses has in most men overpowered the mind to the degree that the walls of time and space have come to look real and insurmountable" (II, 272). The epiphany, however, will teach us "the difference between the absolute and the conditional or relative. We apprehend the absolute . . . for we learn that time and space are relations of matter" (I, 57).

Scientific thought contemporary with Emerson generally viewed space and time as independent constants inherent in Nature, and Emerson no doubt found it difficult to illustrate

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Toben, p. 143.

his belief in relativity with examples from science, Einstein's "special" theory of relativity,⁴ although a twentieth-century phenomenon, easily illustrates the principle of relativity as it appears in Emerson's thought. In his first theory of relativity, Einstein proposes that space and time are relative from the point of view of the observer. For example, if an object traveling at the speed of light were observed by a person in a state of rest relative to the moving object, the size of the object would seem to lessen. What is true for lengths is true for time intervals in the inverse. From the point of view of the observer, time intervals become longer as the velocity of time-measuring instruments approach the speed of light. If one imagines a clock traveling at the speed of light and an observer at rest relative to the clock, the observer would see the dimensions of the clock diminish, its mass increase, and its hands move more slowly.

Einstein's special theory of relativity thus concretely illustrates Emerson's assertion that space and time are not absolute distinctions but are "physiological colors which the eye makes" (II, 66). But Emerson also declares space and time to be "relations of matter" (I, 57), a statement which is clarified by specific examples again from modern physics. Einstein's "general" theory of relativity, less

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For a clear discussion of Einstein's special theory of relativity, see Capra, pp. 160-165.

widely disseminated than his earlier theory,⁵ proposes that space-time is curved by the gravitational fields of massive bodies. Gravity cannot be separated from matter, and matter cannot be separated from curved space-time. With Einstein's proposal in mind, Emerson's claim that Intellect Receptive informs us that "time and space are relations of matter" is simultaneously illustrated and clarified.

Emerson believes that man realizes his place in this interdependent cosmos during the epiphany. In Nature, Emerson records his own religious epiphany, from which he leaves with a sense of having united with all creation: "Standing on the bare ground . . . all mean egotism vanishes. I become a transparent eyeball; I am nothing; I see all; the currents of the Universal Being circulate through me; I am part or parcel of God" (I, 10). During this epiphany, Emerson realizes that he is part of a dynamic creation. The loss of egotism he describes is not a dissolution of individuality, but is instead a tearing down of the artificial barriers between the self and the world. According to Emerson, then, the epiphany teaches "the occult relation between man and the vegetable." It instructs him that he is "placed in the centre of beings, and a ray of relation passes from every other being to him. And neither can man be understood without these objects, nor these objects without man" (I, 27-28). In "The Poet," Emerson

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See Capra, pp. 160-165.

berates so-called "intellectual men" for failing to "believe in any essential dependence of the material world on thought and volition" (III, 3-4), for Emerson firmly believes that "the act of seeing and the thing seen, the seer and the spectacle, the subject and the object, are one" (II, 269).

An illustration of Emerson's belief in the relationship of man to creation is the Heisenberg uncertainty principle of quantum physics, which suggests that "the very act of measurement or observation transmits sufficient energy to alter the system that is observed."⁶ In fact, some physicists theorize that in simply thinking about an object, man affects and changes it.⁷ One physicist proposes replacing the word "observer" in scientific descriptions with the term "participator."⁸ Emerson, by the same token, calls man a "necessary actor" in nature, who mediates "between two else unmarriageable facts"--mind and matter (I, 207).

This brief look at Emerson's world view again demonstrates the compatibility of Emerson and modern science. Twentieth-century physics, like modern neurophysiology, can be used to illustrate many of the general principles of Emerson's theory of intellect and epiphany. And, of course, there is room for additional study of Emerson's

⁶ Pelletier, p. 49.

⁷ Toben, p. 40.

⁸ Capra, p. 175.

enumeration of the laws and powers of intellect in conjunction with science. His belief in an Intellect Constructive, the active complement of the introspective Intellect Receptive, deserves particular attention, for it is as important to his theory of inspiration as the receptive power. The insights of the epiphany are not given for "barren contemplation, but for new creation" (II, 23). The transcendentalist who has discovered the hidden intelligence within all men, the ecstasy of the epiphany, and the unity of Nature has an obligation to make these truths "communicable," to become the "creator in the finite" (I, 64). The "most wonderful inspirations die with their subject if he has no hand to point them to the senses" (II, 335). Just as understanding must be balanced with reason, so must introspection be balanced with action, and a thought with its publication (XII, 12; II, 334). The succession of Intellect Receptive by Intellect Constructive Emerson believes to be almost instinctual: "The intellectual and the active powers seem to succeed each other . . . There is something unfriendly in each to the other, but they are like the alternate periods of feeding and working in animals; each prepares and will be followed by the other" (I, 22). Intellect Receptive and Constructive are thus polarities that should receive equal attention from the transcendentalist as well as from the student of Emerson. An analysis of the constructive

faculty in conjunction with scientific theories of creativity would no doubt shed light upon this important intellectual power.⁹

The possibilities for additional study of Emerson's thought with modern science are intriguing not only because they can further our understanding of Emerson, but also because they will represent a synthesis of the "extremes" of science and mysticism that Emerson actively seeks in his own writings. In his essays and lectures, he attempts to exhibit the "twofold goodness" he believes characterizes the good scholar. At one pole of the scholar's thought is "Reason; at the other, Common Sense. If he be defective at either extreme of the scale, his philosophy will seem low and utilitarian, or it will appear too vague and indefinite for the uses of life" (I, 182). Emerson accordingly uses the facts and theories of science in his arguments, not to "prove" his assertions, but to serve as the balance-wheel for his intuited insights. The modern critic who draws upon science in his own study of Emerson's thought does not necessarily do so to "balance" his abstractions with concrete facts. His motive need only

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Hemispheric research has already been performed to investigate the roles of the hemispheres in artistic creativity. Bogen and Bogen, for example, propose that the same kind of synthesis of the hemispheres' powers responsible for the inception of an idea may also be important in its transformation into concrete form.

be to clarify the ideas of Ralph Waldo Emerson, but he nevertheless will be apprentice to a method of explication used and advocated by Emerson.

BIBLIOGRAPHY

- Allen, Gay Wilson. "Emerson and the Unconscious." American Transcendental Quarterly, 19 (1973), 26-30.
- Arieti, Silvano. Creativity, The Magic Synthesis. New York: Basic Books, Inc., 1976.
- Baim, Joseph. "The Vision of the Child and the Romantic Dilemma: A Note on the Child-Motif in Emerson." THOTH, 7, No. 1 (1966), 22-30.
- Bluestein, Gene. "Emerson's Epiphanies." New England Quarterly, 39, No. 4 (1966), 447-460.
- Bogen, Joseph E. "The Other Side of the Brain II: An Appositional Mind." Bulletin of the Los Angeles Neurological Societies, 34, No. 3 (1969), 135-162.
- and Glenda M. Bogen. "The Other Side of the Brain III: The Corpus Callosum and Creativity." Bulletin of the Los Angeles Neurological Societies, 34, No. 4 (1969), 191-220.
- Bridges, William E. "Transcendentalism and Psychotherapy: Another Look at Emerson." American Literature, 41, No. 2 (1969), 157-177.
- Buckman, W. R. "The Relationship of Evoked Potentials to Field Independence-Dependence and to Lateral Eye Movements." Thesis Stephen F. Austin State University 1980.
- Capra, Fritjof. The Tao of Physics. New York: Bantam Books, 1977.
- Carpenter, Frederic I. Emerson and Asia. Cambridge: Harvard University Press, 1930.
- . Emerson Handbook. 1953; rpt. New York: Hendricks House, Inc., 1967.
- Christy, Arthur E. The Orient in American Transcendentalism: A Study of Emerson, Thoreau, and Alcott. New York: Octagon Books, 1963.

- Duncan, Jeffrey. The Power and Form of Emerson's Thought.
Charlottesville: University Press of Virginia, 1973.
- Emerson, Ralph Waldo. The Complete Works of Ralph Waldo Emerson. Centenary Edition. Ed. Edward Waldo Emerson. 12 vols. Boston and New York: Houghton Mifflin Co., 1903-1904.
- . The Early Lectures of Ralph Waldo Emerson.
Ed. Stephen E. Whicher, Robert E. Spiller, and Wallace E. Williams. 3 vols. Cambridge: Harvard University Press, 1964.
- . The Journals and Miscellaneous Notebooks of Ralph Waldo Emerson. Ed. W. H. Gilman, et al. 14 vols. Harvard University Press, 1961.
- Falk, Robert, ed. Literature and Ideas in America: Essays in Memory of Harry Hayden Clark. Athens: Ohio University Press, 1975.
- Galin, David. "Implications for Psychiatry of Left and Right Cerebral Specialization." Archives of General Psychiatry, 31 (1974), 572-583.
- Galin, David and Robert Ornstein. "Lateral Specialization of Cognitive Mode: An EEG Study." Psychophysiology, 9, No. 4 (1972), 412-418.
- Gazzaniga, Michael S. "The Split Brain in Man." Scientific American, 217, No. 2 (1967), 24-29.
- Green, Alyce, Elmer Green, and D. Walters. "Voluntary Control of Internal States: Psychological and Physiological." Journal of Transpersonal Psychology, 2 (1970), 1-26.
- Kamiya, Joe. "Conscious Control of Brain Waves." Psychology Today, April 1968, pp. 57-60.
- Kimura, D. "Dual Functional Asymmetry of the Brain in Visual Perception." Quarterly Journal of Experimental Psychology, 15 (1964), 166-171.
- Leary, Lewis. Ralph Waldo Emerson: An Interpretive Essay. Boston: Twayne Publishers, 1980.
- McKellar, Peter and Lorna Simpson. "Between Wakefulness and Sleep: Hypnagogic Imagery." British Journal of Psychology, 45 (1977), 266-276.

- Mundy-Castle, A. C. "The Electroencephalogram and Mental Activity." EEG and Clinical Neurophysiology, 9 (1957), 643-655.
- Neufeldt, Leonard N. "The Science of Power: Emerson's Views on Science and Technology in America." Journal of the History of Ideas, 38 (1977), 329-344.
- Obuchowski, Peter A. "Emerson's Science: An Analysis." Philological Quarterly, 54, No. 3 (1975), 624-632.
- Ornstein, Robert, ed. The Nature of Human Consciousness. New York: Viking Press, 1974.
- Paul, Sherman. Emerson's Angle of Vision. Cambridge: Harvard University Press, 1952.
- Pelletier, Kenneth R. Toward a Science of Consciousness. New York: Dell Publishing Company, 1978.
- Reaver, J. Russell. Emerson as Mythmaker. Gainesville: University of Florida Press, 1954.
- Rorvik, David. "The Theta Experience." Saturday Review of the Sciences, 1 (1973), 46-51.
- Schacter, Daniel L. "EEG Theta Waves and Psychological Phenomena: A Review and Analysis." Biological Psychology, 5 (1977), 47-75.
- Tanner, Tony. The Reign of Wonder. Cambridge: University Press, 1965.
- Toben, Bob. Space-Time and Beyond: Toward an Explanation of the Unexplainable. New York: E. P. Dutton, 1975.
- Whicher, Stephen. Freedom and Fate: An Inner Life of Ralph Waldo Emerson. Philadelphia: University of Pennsylvania Press, 1953.