



THE DEPTHS OF HUMAN UNDERSTANDING: SCIENCE IN SEARCH OF MEANING

by

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Science, as a way of knowing, has given man some dominion over nature; it has unfolded new perspectives on the ancient problems of pain, sickness and suffering and offered him a growth of fresh ideas on the cosmological design. True, science has become mother to many tools of destruction and power-oriented mind sets that thrive on greed and, more often than not, on an unmindfulness of the value of life and all creation that supports it. We should not, however, gloss over the good that science and technology has contributed to the well-being of man and to the changing modes of understanding our environment and, indeed, even ourselves. We should be willing to consider how new frontiers of knowledge are ineluctably reframing older conceptions of man and nature.

Of course, traditional ways of doing and thinking are threatened and there is resistance. Nevertheless, there has been an accommodation of the new understandings by adaptation and necessary adjustment in method and interpretation of time and situation. The new physics, for instance, is now engaged in eastern philosophy, having entered into areas of thought that generally had been proscribed in scientific circles. Still there is now a growing feeling among not just a few scientists that this continuing dialectic of statement and ²resistance has been a healthy influence all around and has stimulated a renewed vigorous interest in the older formulations of philosophy and practice. We are, I believe, now much more aware of the limitations of science, even as we realize its power to illuminate, in its own special way, many problems that

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ABSTRACT

Developments in the psychological sciences might throw some light on traditional beliefs and procedures, pointing to the generality of its principles across a wide range of similar phenomena. Religious traditions employed these principles, certainly learned thru hard experience and discipline in the long evolution of man's search for depth and meaning in life, thru practices such as prayer repetition with its concomitant suggestibility effects in different levels of relaxation or trance states. The ability to enter at will into varying states of consciousness is possible of attainment thru psychological methods borne of present-day science, with an understanding conformable to levels of access to some deeper self, in either samatha to samadhi. The holographic hypothesis of Bohm and Pribram seems consistent, by drift and tenor, with the ancient experience and its metaphysical construction of man and nature. Attitudes of trivialization of ancient beliefs, such as the "explaining away of ..." by scientific rationalization, or "it is nothing but..." in much the same way, are contrasted with attitudes of accommodation, of humility and respect for, a natural evolution in man's knowledge of himself and nature, each step of which is expressed in language appropriate to the science and culture of its time.

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45 100

challenged ourr ancestors. In what follows, we offer a set of ideas, new and old, some from scientific work, some from an older stock, which may have some relevance to familiar articles of faith and practice.

Repetitive, Monotone Stimuli in Prayer

Prayer repetition is an example in religious practice that, almost without exception, seems to be part of the sacred framework. Of course, not all prayer is repetitive, however; still, monotone repetition in varying forms strikes one as generally present in the mystical tradition. Christian ceremonial chant, sometimes with alternating response and reply between groups, may be regarded as repetitive monotone, particularly when it is rhythmic and the meter is short and simple. Then you have the mantra of Hindu contemplative disciplines, and many others of a non-aural character (tactile, visual, kinaesthetic-proprioceptive, or some combination of these).

Sometime in the middle of the last century, an English physician, James Braid, wrote a tract ¹ on a phenomenon and procedure for which he coined the word hypnotism, a term which exists up to this day. Braid found that by presenting a stimulus object to which a patient fixated his attention for some three minutes, he could get the patient to relax and enter into a hypnotic trance, deep enough for him to undertake painless surgery without anesthesia. In short, thru a repetitive or continuous presentation of an object which the subject paid attention to and by writing out his

observations, Braid gave us the standard fixation technique in hypnosis thru which one could produce varying levels of relaxation/trance effects with the corresponding alterations in the consciousness of the subject. An interesting thing about this result is that the subject thereby becomes highly suggestible, or open to suggestions from without or within.

One notes at this point that the process of repetitive, monotone stimulation has analogous, perhaps even identical, characteristics to those prayer repetition in religious practice. One essential idea is that attention (awareness, mindfulness, and consciousness of) is sustained towards a stimulus source. The time course of the relaxation-suggestibility effect ensuing from the procedure is such that, depending on the history and personality structure of the subject, the onset of these effects occurs from a few minutes to as far as about an hour.

There are, however other natural or man-produced monotone repetitive stimuli that have been variously utilized in clinical practice and in the contemplative disciplines: cricket sounds in the night; the drone of surf waves in the seashore and of waterfalls; rhythmic sounds, particularly of music, e.g. Ravels's Bolero; kinaesthetic-proprioceptive stimuli in the dance. In these examples, the subject often enters into an altered state of consciousness, and, if he goes deep enough, into a profound state of relaxation and eventual trance state, there is greater access to a "deeper self", the "unconscious" to use the language of analytical school.

The monotone stimulus method is not by any means the only way of producing profound relaxation and suggestibility. The scientific literature on relaxation and quieting methods leading to altered states of consciousness is quite extensive, and a few examples are offered here for our purposes: (1) sensory deprivation, work at McGill University and other laboratories, have shown relaxation effects and altered states of consciousness in subjects exposed to homogenous, uniform sensory fields;² (2) autogenic training, very much in favor with continental European psychiatrists as a therapeutic procedure, requires one to pay attention successively to different parts of the body with repeated suggestions that those parts are functioning in ways that describe a relaxation effect;^{3,4} (3) meditation, in which one is mindful, aware, or paying attention to one's breathing, resulting in profound relaxation or trance.⁵

The materials on meditation and the contemplative experience are quite very well developed, and, while western science is just starting to do its own scientific study of the subject matter, those of the east date way back to many thousand years of history.⁶

Open, Receptive States in Various Levels of Samatha

High suggestibility in the deeply-relaxed individual indicates an open, receptive state which means release in varying degrees from limited, constricting mental states. For release from conditioned mental sets "de-automatization" is the term used by

Deikman of the Langley-Porter Neuropsychiatric Institute of UC in San Francisco Medical School.⁷ The organization of human memory at deeper trance levels is considerably altered, a fact deliberately utilized in psychoanalytic work, particularly in conjunction with hypnosis wherein levels in depth trance (samatha) could be modulated at will. Insight, the therapeutic objective in analysis, is attained thru a systematic exploration of the unconscious in the samatha state.

The method of free association, in less formal situations, seems to be a process involved in much of creative of artistic and scientific work.⁸ Aldous Huxley, the writer, for one, did some exploratory work of this type in deep trance under the supervision of Milton H. Erickson, perhaps one of the most original scientist-scholar on hypnotic phenomena.⁹

The open, receptive state of mind has been well studied not only in the arts and the humanities but also in the healing professions.

Indeed, the paths to the deeper self has had a time-honored history all its own, in such as those of Patanjali, Sri Aurobindo, the discourses of Siddhartha, the Buddhist Abhidhamma-kosa and the Visudhimagga of Buddhagosa, the Tibetan Matramudra, and the Holy Bible of the Christians. The Philolokalia on the works of the early Christian fathers details the methods and practices of a contemplative discipline that was more in the spirit of the ancient eastern mystical tradition. The works of Meister Eckhart still is part of a long list that stretches across many ages, many lands. We also need to be reminded of the Gita, the Vedas and the Upanishads

as constituting probably the oldest contemplative tradition that explored the territory with remarkable wisdom.

Along this line of ancient tradition, the late Krishnamurti must be considered one of the most enlightened adherents of an entire way of life that expressed itself from the depths of the inner self.

The Observing Self: The Hidden Witness

Experimental work at Stanford by Hilgard and his associates, has revealed that, under deep hypnosis, there is a personality in the subject reporting an experience of pain which he, under light trance, is not able to report. Hilgard calls this personality that is able to tell the truth in deeper trance state "the hidden observer"¹⁰. This experiment has been replicated subsequently in several other laboratories.^{11,12}

There is also an analogous description by Deikman¹³ of an "observing self", a little man in a little man, or ghost in the machine, that has the reflexive capability of being conscious of its own consciousness, of commenting, observing and directing himself, a deeper self perhaps much like Hilgard's hidden observer.

Murphy notes that a mysterious intelligence often comes into play during hypnotic suggestion, and, quoting Lewis Thomas, author of 'Lives of a Cell', "There has to be a person in charge, running matters of meticulous detail beyond anyone's comprehension, a skilled engineer and manager, a chief executive officer ... a cell biologist of world class."¹⁴

Furthermore, Murphy observes: "This, perhaps, is the most fundamental insight we gain from hypnosis, this glimpse of a superior intelligence within us that can drastically alter our perceptions and thinking, restore health functioning, and enhance our most basic capacities.¹⁵ In sum, one who is aware of his being aware, an observer who does not lie, a witness who openly receives all information and integrates then with great skill and precision.

Who is this deeper self, so celebrated among the ancients and continuing to be the object of serious scientific research even up to this very day? Expressions probably referring to this being abound in sacred literature: "the elusive presence", "someone up there is telling me or guiding us", "my conscience tells me", "who is the who of 'Who am I?' ", "what we are looking for is who is looking" (St. Francis of Assisi), "Who in the brain is interpreting the hologram?"

The Hologram

Karl Pribram and David Bohm, neuroscientist and physicist, respectively, have proposed a holographic paradigm for describing the human psyche, for one, and the physical universe, on the other. A hologram is one where the structure that produces it contains information that can be found in every part of the structure.¹⁶ A corresponding description by Bohm¹⁷ of the physical universe is something similar to this---- an ontological implicate and explicate (enfolded and unfolded) order which I think harkens back to Spinoza in his concept of nature begetting and nature begotten.

The hologram seems to ring the sound of the monad of Leibniz, who proposed it in the seventeenth century as did Spinoza of his concept of nature. You could push the history of this idea for as far back as over two thousand years and one realizes that the concept is not new. And yet the hologram is really very new; Bohm's implicate order is derived from entirely different premises. The essential virtue of the ancient teachings was that they were borne directly from experience by people who were arduous in effort and delicately tuned to sacred pursuits. There was a way of life, not the fragment of a job in the short term.

The hologram seems to have the possibilities of a speaker, organizer, synthesizer and processor at very highly integrative levels, since it has the most information and because of its structural framework. However, the full experiential potential of the holographic process would not be immediately available; access would only be thru special training for most of us, particularly those at deeper levels from the ordinary waking state. The monad of Leibniz, the holographic brain of Pribram, and implicate-explicate order of Bohm thus displays for us an open field for speculative metaphysics that brings us right at the doorsteps of sacred literature.

It is difficult to imagine how these historically existing achievements of human thought could be mutually inconsistent --- they seem headed in the same direction. New procedures and conceptual tools evolve in science as we know it now and the science of the past had its own. The tasks of the ancients were very much better supported within an integral framework of an unabashed search for some meaning in

life and solutions to the problem of pain and suffering, in the course of their perfection, at every step of the way, immediately visible as the filaments of incandescence of Edison as he labored over thousands of thousands of materials to find the right filament. The ancients were heavy on the experiential side of their inquiry, patient and unflagging in their search for the depths of the human psyche; they instinctively knew the problem lay there. The behavioral regimen they fashioned for reaching into the depths is now the subject of investigation by the methods and concepts of the hard sciences of the day.

Science and the Invariances of Nature

The search for invariances or uniformities in nature has a spirit and equipment that are more adapted to and congruent with the modern temper. The scientific drive, as we know it today, has a flow and spread in the language and lifestyle of various cultures that are wide and deep, and probably irreversible. Formulations of processes in nature in one area of work that seem quite different from those of another field may be seen in terms of common invariant processes. The periodic table and the law of universal gravitation are good examples. Such discrepancies in recognition between traditional views and those of the present are pervasive even in educated circles. In modern physics, for instance, our conception of the cosmos is very radically different from those of the past, if only for the fact that our understanding of physical processes and the methods of studying them have undergone many profound changes. In much

the same way, with the advent of modern science, our comprehension of how the human mind functions, in terms of invariant processes, has been undergoing a significantly similar evolution.

In this paper, I have tried to describe with what might be regarded as irreverent, and, even possibly, superficial, broad strokes some of the more recent work in psychology and related areas of study, referring oftentimes to practices in the past and the present that seem relevant. Broad strokes, yes, with blurred boundaries and missing details, but better yet, maybe, would be not to lose the main ideas on the fine points. And a formulation however in terms of invariances (analogues, or similarities) has a many-sided freedom for exploring subject matter.

A conceptual link between samatha and insight, on the one hand, and relaxation-release-openness effects of attention to iterated stimuli, on the other, points to a commonality in natural processes that suggests quite clearly another perspective in the way we could look at religious, artistic and even scientific practice itself.

Some Helpful Accommodations in Perspective

A professor once remarked that we do not really know very much, nor even appreciate, one remarkable mutation in the evolution of man and our planet earth until we understand science in the heart, and the heart of science is the experiment. Scientific methods have ramified and proliferated from the central idea of the experiment, oftentimes well beyond the comprehension of most of us. But it has

spawned powerful conceptual, abstract instruments of thought for, unfortunately, "explaining away" many important ideas of the past. This has had the consequence of a trivialization of those ideas, or practices arising from the ideas, in the attitude of "nothing more but..." towards direct, practical experience.

If, on the other hand, by some good fortune, the scientist, or anyone at all, is willing to undergo the discipline of the contemplative, he will inevitably come to a somewhat different conceptualization of human problems. A necessary corrective to the cultural emphasis on control of the external environment, in distinction of control of the inner self, seems to be in order. Whatever imbalances there are in our education, still, science is just an aspect of a protean problem: that of understanding life itself in depth.

To forge a larger circle of understanding and respect between modern science and the ancient wisdom of experience, it would be necessary to be a scientist, humanist, and philosopher all in one, as in the days now long gone. And the field is vast and the journey far too long within so short a time. The only way, as Alexis Carrell once suggested, is to give up on the pleasures of ordinary men, because, I suppose it will take an unusual amount of time even just to sample the waters.

NOTES

- 1 Braid, J. Observation on Trance or Human Hibernation. Edinberg, 1850.
- 2 Zubek, J.P. Sensory Deprivation: Fifteen Years of Research. New York: Appleton-Century-Crofts, 1969.
- 3 Schultz, J. and W. Luthe. Autogenic Training. New York/London: Grune and Stratton, 1959.
- 4 Another important method is that of Elsa Gindler, who taught that attention to body parts, to breathing, posture and movement had a "calming effect" or some "sense of allowing" and "letting go".

This is cited in Murphy, M. The Future of the Body: Explorations into the Further Evolution of Human Nature. New York: Tarcher/Perigree, 1993.

I came upon this remarkable book after I had finished the initial draft of this paper. And now I must acknowledge that this monumental work has range and depth in presentation of scientific and traditional materials that has been useful to me in more ways than one.

- 5 The most important classic on attention-to-breathing meditation is in the long Discourses of the Buddha.
- 6 One of the most useful commentaries on the method of the Gautama Buddha is Buddhagosa's Visudhimagga (The Path of Purification) tr. by B.N. Nyanamoli.

Of more recent vintage would be Psychological Studies on Zen by Akishige, Y. (ed.) 2 vols., Tokyo, Zen Institute of Komazawa University, 1970, and Murphy, M. and S. Donovan. The Physical and Psychological Effects of Meditation. Study of Exceptional Functioning, Esalen Institute, 1990, a monograph listing some 1,300 studies from 1931 to 1990.

- 7 Deikman, A.J. De-automatization and the mystic experience. Psychiatry, 1966, 29, 324-38.
- 8 Ghiselin, B. (ed.) The Creative Process: A Symposium. Berkeley: University of California Press, 1952.
- 9 Erickson, M.H. Special inquiry with Aldous Huxley into the nature and character of various states of consciousness. American Journal of Clinical Hypnosis, 1965, 8, 14-33.
- 10 Hilgard, E. The problem of divided consciousness: A neo-dissociation interpretation. Annals of the New York Academy of Sciences, 1977, 296, 48-59.
- 11 Kihlstrom, J.F. Conscious, subconscious, unconscious. In Bowers, K.S. and Meichenbaum, D. (eds.) The Unconscious Reconsidered. New York: Wiley, 1989.
- 12 Zamansky, H.S. and S.P. Bartis. The dissociation of an experience: The hidden observer observed. Journal of Abnormal Psychology, 1985, 94, 243, 48.
- 13 Deikman, A.J. The Observing Self. Boston: Beacon Press, 1983..
- 14 Murphy, M. op. cit., 348, quoting from Thomas, L. Warts. Human Nature, 1979, 2, 58-9.
- 15 Murphy, M. loc. cit., 348.
- 16 Wilbur, K. (ed.) The Holographic Paradigm and Other Paradoxes. Boulder, Shambala, 1982.
- 17 Bohm, D. Wholeness and the Implicate Order. London: Routledge, 1980.