

So what is biofeedback? What is it not? In Green's conception, biofeedback is associated with volition, consciousness, creativity, with human potential and the transpersonal. With self-reliance. In trying to understand the Green's ideas about the role of these factors in biofeedback, and factors influencing their conceptualization, the next few selections and articles definitively reveal the Greens thinking. . . . [Eds.]

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BIOFEEDBACK AND VOLITION¹

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VOLITION

Although my wife, Alyce, and I will refer to a variety of subjects in our discussions, I hope it will be clear that the important factor they have in common is volition. Many physical and psychological variables already well known enter into, or must combine, to produce a healthy body and mind, but the contribution of volition has been almost entirely ignored. Although the explicit focus of our research usually involves biofeedback, the implicit factors always include volition, and how to “mobilize” volition for mind-body coordination.

Without the exercise of volition we are passive acceptors of (1) our genetic predispositions and (2) our cultural and environmental impacts and conditionings. Such passive acceptance is unnecessary, however. Some of our most successful people are those who learned in some way to shape their minds and bodies to their wills, against odds. Franklin D. Roosevelt is one example. Ben Hogan, one of the all-time champion golfers, is another good example of what volition can do. When an automobile accident put him out of action, one leg being so severely damaged that doctors wanted to amputate, it was his volition that indirectly developed a “new” vascular network, saved his leg, and made him Masters Champion. His desire to play golf would not let him stay down. That galvanizing impulse guided by his visualization (of playing golf), governed his physical effort and resulted in a “yogic” accomplishment of the highest level. In one sense you could say that Ben Hogan “told his body” what he wanted

it to do, and the body complied. The question for everyone with mental, emotional, or physical problems is, of course, “I how do you tell it?”

British medical doctors have known for a long time that some of the Indian yogis could demonstrate voluntary control of physiological processes, processes that are, by definition, involuntary. It was reported by medicos in the last century, for instance, that certain yogis could stop their hearts, or could be buried for many days, sometimes weeks, and when dug up would “come back” to life. These reports were probably not believed at first, but as decades passed and more reports came in, and the phenomena of *hypnosis* came to Western medical attention, it became clear that the normally involuntary section of the physiological apparatus could be manipulated in some unexplainable way by desire and cognitive instructions.

AUTOGENIC TRAINING

About seventy years ago the latent power to regulate one’s own physiological self began to be brought to Western attention by Johannes Schultz, M.D., through his self regulation system which he called Autogenic Training, self generated or self motivated training.^{2,3} Although Schultz worked at first with hypnosis, he was also interested in yoga. Perhaps it was the volitional aspect of yoga that especially appealed to him, but in any event he felt that the failures of hypnosis were in part related to the fact that the patient either became too passive and dependent and did not take enough self responsibility, or unconsciously blocked the doctor’s hypnotic programming.

In his medical practice, Schultz noticed that “good” hypnotic subjects often reported a feeling of heaviness throughout the body and warmth in the limbs before a successful therapeutic attempt, so he decided to teach patients to first “put” themselves into the state of physiological quietness through the silent repetition of phrases associated with heaviness and warmth. After that, they could tell their bodies what to do, using “organ specific” formulas. This attempt at self regulation is in sharp contrast to hypnosis in one particular way, even though the same physiological “final common path” processes are involved. In hypnosis, the doctor quiets the patient by suggestion, rather than the patient quieting himself, and then the doctor suggests what the patient’s body and psyche should do. The patient is “programmed” by the doctor.

Schultz's idea of self instruction during a relaxed, receptive state was a simple brilliant insight, the significance of which can hardly be overestimated. Our bodies usually do not "listen" to our instructions because usually we do not put them in the listening mode, so to speak. In one way at least, the body is like a tape recorder. Before recording, we put the machine in file listening mode, "record" mode, because it will not record while in the active "playback" mode. The body seems to need quieting before it can take instruction. Bodies may not be as stubborn and unresponsive as Missouri mules, but in both cases distractions must be eliminated and attention must be focussed before they can be told what to do. That was what the Missouri farmer said about his mule when he hit it with a plank before telling it to go into the barn. . . .

. . . VOLITION RECONSIDERED

One way volition could "get into" the nervous system is to be there already, as a chemico-neurological discharge in unconscious structures, whose subthreshold operations automatically program us, in the same way that random processes and certain pre-set restrictions and contingencies make "computer music." That view is, of course, the hard-line behaviorist position. There is, however, an interesting diametrically opposed alternative.

If we carefully examine the Indo-Gnostic theory, in modern dress, we can hypothesize that mind is an energy structure whose densest section is the physical body. This makes "theoretical" room for parapsychology and its crucially important psychokinetic phenomena. In this model, volition directs a normally imponderable psychophysical energy, such as energy hypothesized one hundred years ago by Gustav Fechner in accounting for parapsychological phenomena.

There may not be found a satisfactory operational definition of volition for decades, but if it is a fact that mind includes or appears as a normally imponderable energy that can be projected so as to directly modify OUTF events, as psychokinesis studies seem to indicate, then it seems reasonable to assume that this same normally imponderable energy can be directed to influence INS events, a person can "manipulate" his own cortical and subcortical firing patterns, can modify his own neurological and hormonal behavior from inside.⁴ There is not sufficient time to discuss visualization techniques that have proven

useful for giving instructions to the body, but the subject is discussed in an article called Autogenic Feedback Training.⁵

This idea of “mind contains body” is the reverse of the behaviorist position, but it makes it possible to conceive of humans as open “field” entities whose multidimensional nature has been only slightly studied. The unusual people of all ages are, in (his open-ended view, “regular” people who have discovered how to use some of their volitional capacities. Their control of both INS and OUTS phenomena are extrapolations of what all of us do, to some extent, all of the time.

Although the idea of self selection of neurological firing patterns may seem strange, biofeedback data certainly do not contradict it. For instance, research in at least four labs, starting with Sterman’s work, has shown that epilepsy can be modified by self selection of brain rhythms.⁶ Since brain rhythms per se have no known sensory correlates, what seem to be selected in actuality are emotional and mental states (psychological states, mind states, states of consciousness) whose correlates are particular brain rhythms.

As previously mentioned, the behaviorist position maintains that the psychological state itself is the consequence of preceding biochemical brain processes, but there is no “hard” evidence to support this idea, even though it is a kind of faith with some. The more general hypothesis, that both mind and body are states of an energy continuum in which mind is a normally imponderable substance or energy, with extra-physiological extensions, has, however, at least three supports. Two of these supports are inferential, but the third is empirical and qualifies as hard evidence: (1) “non-sensory” self regulation, brainwave feedback studies, (2) the simple phenomenological gestalt of human awareness in which we “feel” we make choices, (3) the OUTS data from psychokinetic studies.

Every important human experience incorporates the feeling of choice, free will, whether it is to perceive, to act, or merely to be, but a limited behaviorist position is not without merit, of course. Perhaps most of our “choices” are not fully free, are predetermined to a large extent by unconscious neurological potentials and biochemical gradients, but what is of vital significance is the fraction of opportunities that exist, or the extent, however tiny, in which

“metachoice” can successfully be made. That is, choices made by a “person” from outside the neurochemical system, like a rower who dips his oars in the river to control his boat, but who is not himself part of the otherwise “predetermined” river-and-boat system.

This discussion is academic perhaps to those who already feel that humans have a choice, but it may be useful for those who are depressed by circumstances or who feel that they are already beaten, as many paralysis victims, psychosomatic casualties, mental patients, alcoholics, and drug addicts seem to feel. Perhaps the first need for them is to accept the possibility, however difficult to implement, that through the use of volition one can learn to modify mind-body processes.

VOLITION AND THE PSYCHOPHYSIOLOGICAL PRINCIPLE

In concluding, I wish to draw attention to “volition and the psychophysiological principle.” The principle has been stated as follows: “Every change in the physiological state is accompanied by an appropriate change in the mental-emotional state, conscious or unconscious; and conversely, every change in the mental-emotional state, conscious or unconscious, is accompanied by an appropriate change in the physiological state.”⁷ This “closed” principle, when coupled with the idea of volition acting as a metaforce (a force from outside the “closed” system) makes possible the concept of psychosomatic self regulation. Scientifically, much data remains to be gathered, but the psychophysiological principle, and its manipulation by volition, “feels” right, and above all it seems to work.

William James discovered this when he was depressed to the point of considering suicide. He read that if you first assume that you have some volitional power over yourself and circumstances, and then try to assert that power (by acting as if you have it) it begins to “work,” you and your circumstances change. James tried it because he could think of no alternative, and it “worked.” He recovered from the depression that his former behaviorist logic plunged him into and went on to reach a high level of creativity and productivity.

Whether volition enters the rationale diagram first as a change in the emotional and mental matrix, or more directly as a metaforce manipulation of limbic or

hypothalamic structures, can not yet be determined, but we anticipate that a new psychophysical science, corresponding with some of Fechner's original concepts, will result from research volition with respect to yoga, biofeedback, autogenic training, psychokinesis, and parapsychology in general.

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