

BIO-FEEDBACK (cont.)

By this time some yogis and zen monks have actually had the opportunity to try feedback training, and to listen to themselves as they meditate. They have tended to agree with westerners' speculations that such devices might be useful in teaching people the elementaries of meditation. In other words, westerners could overcome handicaps of cross-cultural translations and busy schedules in imitating the physiological patterns of expert meditators, thereby perhaps learning the basic state of mind for at least the beginning stages of meditation. Subjects can learn to control their EEG to a measurable extent after only a brief period of practice (Nowlis & Kamiya, 1969; Nowlis & Macdonald, 1969). EMG control, depending on the muscle used, is also not difficult to achieve. Thus a student with either a portable feedback device similar to that designed by Macdonald, or with a central

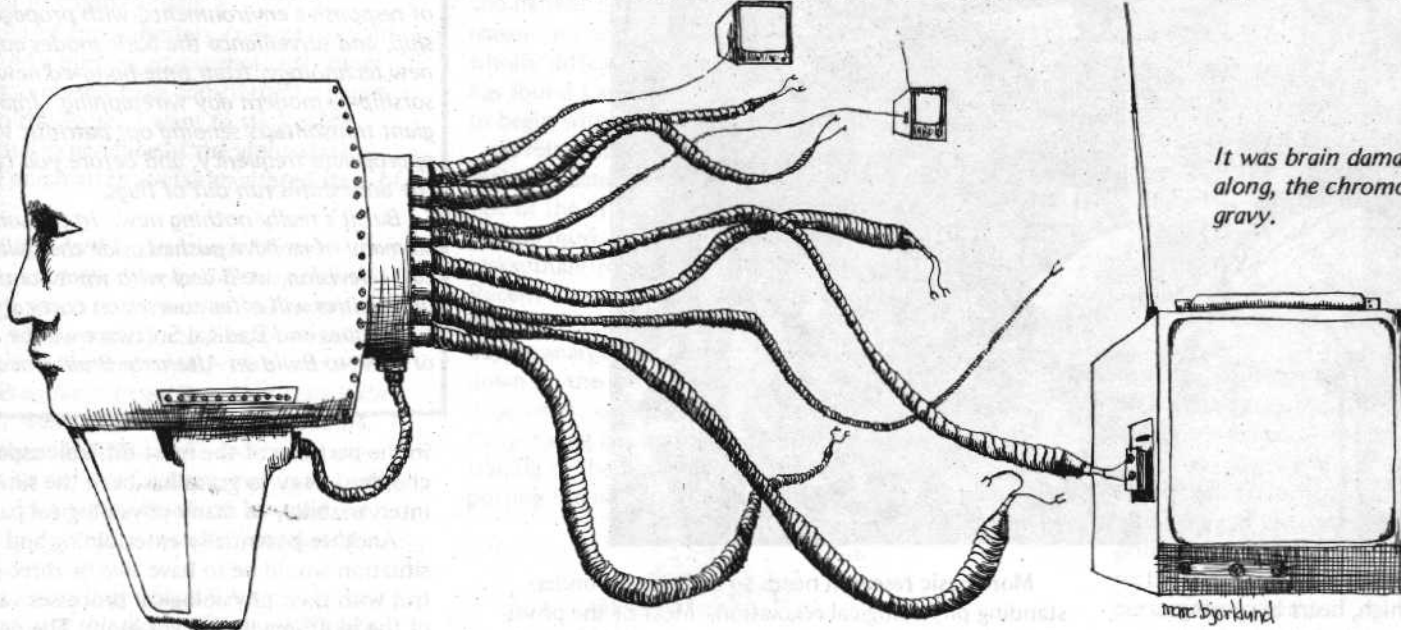
training facility available, for example at his college health service, could learn to meditate in a state of mind similar to that of a zen monk or a yogi.

Thus feedback devices and feedback training may be helpful in providing people with a chance to explore the internal, and in a socially constructive way. Perhaps because western society and western education are so oriented to discrimination and control of external events, the opposite abilities, perhaps providing some relief from practice of the others, are highly prized among the younger generation. Certainly feedback training is less dangerous and more constructive than drug use, or "dropping out", alternatives which attract large numbers of bright and potentially highly valuable young members of our society (H. H. Nowlis, 1968)

Concluding Remarks

The feedback training technique lends itself easily to speculation, and we are sure there are many appli-

cations beyond what we have mentioned here. When inexpensive portable feedback devices are commercially available, for example, we are sure people will think of many more creative uses. We have only mentioned our more straight forward and practical ideas. Much more speculative thinking has gone along the lines of (1) could a feedback device be built to cue a woman as to her time of ovulation, (2) could feedback devices be used to get two or more people into very similar states, thus allowing demonstration of mental telepathy and other phenomena of parapsychology, (3) could feedback devices be helpful in the training of creative artists, training the artists to bring out internal states appropriate to various types of aesthetic productions, (4) could such devices be used in controlling artificial limbs, so that voluntary physiological changes would change the position of the limb, (5) could awareness of various muscle activities through EMG feedback be useful to athletes, etc. It is hard to stop thinking of uses once you begin trying it.



It was brain damage that we had in mind all along, the chromosome damage was just gravy.

—SB

ACID PROGRAMMING

John Lilly charts a self-exploration with a mixture of acid and sensory deprivation, in the language of a model of the human brain as a gigantic biocomputer, thousands of times larger than today's machines, with unknown boundaries in the body. The software of the human computer, all the programs and metaprograms, is the mind. Consciousness is itself a particular program. Self-programming can be achieved through the metaprogramming of the higher level systems of the brain and self-metaprogramming is done consciously in metacommend language, with the resulting programming continuing below the threshold of awareness. The levels expressed in metacommend language cover large segments of the computer's operation, rather than local detail.

LSD is a reprogramming substance which introduces white noise (randomly varying energy) into the computer's systems. The noise adds enough uncertainty to the meanings of the usual signals in the circuits to make new interpretations easy. "In such noise one can project almost anything at almost any cognitive level in almost any allowable mode." For example, hallucination is simply a visual display projected onto white noise. LSD grants the powers of display of data patterns, programs, or storage contents, replay of past experiences, and variation of the motivational charge attached to stored material.

Attenuation of external stimulation frees circuitry for inner cognition. "In the maximally attenuated environment (92 to 95 degrees F. isothermal skin, saltwater suspension, zero light levels, near-zero sound levels, without clothes, without wall or floor contacts, in solitude, in remote isolation, for several hours), the addition of LSD-25 allows one to see that all the previous experiences with 'outside screens' (for projection) are evasions of deeper penetration of self." Once various anxieties and fears have been overcome, thought and feeling expands into the circuitry usually preoccupied with external reality. "The self is still centered at one place but its boundaries have disappeared and it moves out in all directions and extends to fill the limits of the universe as far as one knows them."

Lilly is interested in using these powers for self-analysis with the goal — "make the computer general purpose." That means "there can be no display, no

Programming and Metaprogramming in the Human Biocomputer — Theory and Experiments

John C. Lilly, M.D.
1967, 1970 (reprinted by Portola Institute); 112 pp.

\$1.50 postpaid

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acting, nor an ideal which is forbidden to a consciously willed metaprogram. Nor is any (of these) made without being consciously metaprogrammed." Lilly ducks laying out a methodology for this self-analysis but describes personal experiments he conducted after having overcome the fears which made inner exploration difficult. The experiments involved attempts during LSD-physical isolation sessions to self-metaprogram such unusual basic beliefs as: "the existence of beings in whom humans exist and who directly control humans." Although the trips were full of experiences consonant with the beliefs, straight analysis of the material, coupled with further sessions, convinced him of the inner origin of the apparently external contacts.

Let me underscore that the book is replete with warnings of danger in these methods, with prescriptions for what steps must precede each stage, and with details of tight precautions absolutely necessary. Please, please, if you're tempted to try this stuff, read the book first, and, at the very least, do what he says.

The problems usually considered to be the concern of the therapy needed by us neurotics are, to Lilly, just those fears and anxieties which must be overcome before his methods can be fully utilized. Unrealizable programs, while tripping, are symptoms of taboo areas and repressed material. Sessions are full of such evasive defensive maneuvers as unprojectable images, flickering or distorted projections, intrusion of the external reality program, and inability to project on "blank screens". Evasions avoid programs too threatening for the subject. The repressions, their defenses, and the resulting program restrictions encountered with acid are clearly magnifications of the same effects while straight.

All that Lilly offers on this subject is: "After a thorough exploration of the various evasive metaprograms, it can be shown that the only thing to fear in this area is fear itself, in overwhelming amounts. With sufficient training it can be shown that one can convert the motivational sign of the experienced emotion from negative to positive. As to whether or not one must go through some of the negative emoting in order to experience enough of the punishing aspects to avoid them is a moot point. A great deal of self-discipline is required in this instance to pursue the negatively tinged programs and metaprograms stored in memory." Yeah, yeah, John, but this fearful stage is where we're at. What's this sufficient training like, man. Your moot point is our burning issue. You've been through it all, friend, why not lend some help where it's needed.

Although the book sidesteps this important topic of acid therapy (and I just got to recommend *LSD Psychotherapy* by W. V. Caldwell and the incredible forthcoming book by Stanislav Grof on that subject) it does have much to offer. The ease I experienced in writing this review alone convinced me of the use-value of the computer-model language; don't be too quick to belittle it as old hat. The mind-brain distinction is a fruitful one, and the notion of general purpose biocomputer becomes a neat simile for that hard to define phrase — self-actualized personality.

Most exciting to me are the prospects which Lilly maps out for self-experimentation once I can regularly (in my language) experience ego-death. Playing with basic belief hypotheses appeals greatly, and I look forward to discovering the details of my metacommend language. I am reluctant to give up my religious interpretation of disappearing boundaries of self, but I think I'm willing to submit it to experiment. Sensory deprivation is an intriguing notion and, while I may forego the 95° saltwater flotation tank, a dark-quiet bathtub trip is on my mind.

(Reviewed by Robert Willig)