Helen Budzynski, widow and collaborator of Thomas Budzynski, describes his life and work, from his early involvement with the SR-71 Blackbird, through his doctoral dissertation research on the use of feedback to induce muscle relaxation, to the first commercial production of a muscle biofeedback device, the development of the Twilight Learning neurofeedback protocol, and his research on the use of sound and light stimulation to modify brain processes.

Introduction
What stood out about the young Tom Budzynski and his equally young fellow engineer Herb Weed, such that they were chosen from a whole lineup of experienced engineers to help develop this undercover low-profile costly secret project, the stealth SR-71 BlackBird? Tom was the inertial navigation systems chief for Honeywell on that first SR-71 Blackbird in the early 1960s. How does a person get chosen to develop the advanced inertial navigation system for a never before built complex machine like this?

The Development of His Lifelong Theories and Approach
As I mull this question over, I wonder about what other happenings occurred that then became part of the fabric of Tom’s life. Did he choose or did he get directed into a line of psychophysiological study that now seems to have become whole cloth, cleverly woven of his electrical knowledge and physiology? A marriage of the two fields of engineering and psychophysiology was not easily visualized in the 1960s, when Tom was in graduate school. Were it not for a staunch supporter, namely Johann Stoyva, Tom’s vision could not have been achieved. Tom’s doctoral dissertation in psychology, on feedback-induced muscle relaxation, was initially pronounced to be an “engineering project” and rejected by his first doctoral committee (Budzynski, 1969). With Johann’s careful politicking, a second dissertation committee accepted it.

The integration of the two fields soon became an integral part of his innovations in the treatment of the brain. The brain, for Tom, was always the master. For him, it was natural to use the concept of frequencies, as recognized in electricity and as seen in electroencephalogram (EEG) frequencies of the brain, to link photic and sound frequency activities. Could they interface with brain frequencies and augment change? Tom’s theoretical foray into energy medicine seems finally to have created his image of the human body as a complex bioelectrical machine, directed by the brain. Tom took the book The Body Electric (Becker & Selden, 1985) seriously. He dipped into the literature of energy medicine in which he found that stimulation of specific frequencies in the body encouraged the manufacture of the body’s required body substances, thus controlling the body’s maintenance of health. What guiding force led to these mergers, thus promoting the direction of Tom’s professional life?

The 1970s
Tom’s pervasive orientation, even when he produced the first digitized myographic biofeedback platform as his dissertation project in 1968, was that the muscles are powered by the brain. That dissertation prototype—a muscle biofeedback device—went into production by 1975. But it was not long before he was using brain stimulation to help patients restore their muscle activity.

Before the end of the 1970s, Tom had also developed a prototype of the Twilight Learner. With this device, he tried to articulate how the brain was dictating behavior and emotions, particularly with reference to the unconscious. The device was a concept whose limited instrumental organization could not power the connections of the brain behavior without the backing of a very intuitive therapist to work the machine. All of Tom’s research studies with the Twilight Learner (case studies with often remarkable results) were interesting but not replicable by others using the device. The device suffered from the elementary status of the computer technology of that day. (An article by Thomas Budzynski on the concepts and development of the Twilight Learner also appears in this special issue of Biofeedback).

But if one lives long enough, or even after passing away, some ideas come back to life. The Twilight Learner seems
to be reviving. Now the concepts no longer need to be powered by hardware. They can be achieved by software alone. So now at least two of Tom’s friends and colleagues are re-creating the Twilight Learner, indubitably in different forms, to restore the concept into a protocol for use in clinical treatment. Tom Allen, a long-term friend programming for Thought Technology, Ltd. (Montreal, Canada), plans to release a form of the Twilight Learner as an add-on to the Biograph Infiniti™ software platform. Dick Williams, a close companion from Grand Rapids days, plans a Twilight Learner program in conjunction with the BioExplorer™ software (CyberEvolution, Inc.).

The 1980s

The next wave of developments in Tom’s work focused on the effects of delivering stimulation in various frequencies—through photic driving, binaural beats, and musical features—upon the brain and its left/right lateralized functions. These stimuli, along with rescripting, became the basis for a wide array of audiotapes for stress reduction, revativization, self-esteem, reduction of pain, reduction of insomnia, and reduction of smoking. These audiotapes have taken on a life of their own, now distributed online as CDs and MP3s by Sam Caldwell.

This was an era in which everything was being used experimentally. Tom also experimented. He tried to fit the idea of consciousness into his working practice, exploring subliminal tracking and hypnotic states for use in his projects and practice. Tom considered Erickson to be the master hypnotic therapist, using often no more than a suggestion accompanied by gesture to open minds. This Ericksonian approach remained as a tool for the rest of Tom’s life and clinical practice.

The 1990s

In the 1990s, Tom was given grants to do research on light/sound instrumentation by Synetics, Inc. (now MindPlace, Robert Austin). He was overjoyed to be able to study the EEG patterns produced by the variety of stimuli used in light/sound equipment. The 1990s were declared the “Decade of the Brain.” This national attention to the brain opened funding opportunities for research on the brain and generated high public interest during the years of the Clinton presidency. A high demand for workshops pressed Tom into joining the cadre of workshop trainers. What this decade did for Tom was to consolidate his theories about the use of light/sound. Tom now used light/sound in conjunction with neurofeedback as a therapeutic stimulus. It is sad that more clinicians have not have used these modalities in tandem. Tom’s research gave support to the work of such developers as David Siever and Chuck Davis, who refined various forms of sound and light stimulation as tools to hasten treatment.

The Turn of the Century

Has the fabric of Tom’s professional life after the turn of the century become more like a patchwork quilt? I will suggest here the remarkable variety of directions that he pursued in the final years of his life.

The basic passion of his career remained his clinical practice. In the last decade of his life, Tom began to apply his neurofeedback practice to major problems of the elderly and long-term disablement. Health insurance now has allowed payment for long-term rehabilitation for these patients. For Tom, each patient became a research project. The patients’ years with Tom in neurofeedback training allowed each patient to find markers of brain progress by charting their gains over the years. And they loved Tom Budzynski—a gentle, positive, attentive therapist, such as most of them had never had in their lives.

It was those patients who drove Tom into finding more about the energy organization of the human body. Acupuncture had its successes, but Tom was not fully sympathetic with theories of Chi or transmission of body states. Yet the Meridians traced by Chinese scholars over 5,000 years and passed down through Chinese Medicine held much relevance for many problems of pain and other bodily symptoms causing debilitation, often relevant for symptoms not attached to a diagnosis.

Just accepting the fact of electromagnetic energy somehow flowing throughout the body was not enough. What was its organization? Tom spent many hours in his final decade of life exploring the scientific basis of many of the energy medicine therapies, at the frontiers of energy medicine. Tom met many Rife supporters and studied the remarkable history of Royal Rife and his advanced technology. This led Tom to the volumes of records of tracings of specific frequencies in the human body and of their functional activities within the body. Tom recognized their relevance in his efforts to identify the therapeutic effects of the stimulation of specific frequencies via light, sound, and direct current.

Tom studied the Rife beam ray therapy and even purchased a beam ray device to research it. Other machines using frequency bands were emerging. Probably the most dominant one is the micro-current, which puts out 1/1,000,000 amperage and whose research is traced back to Becker’s studies of healing. Tom was also loaned a cold laser machine to demonstrate to a workshop, and this device provided almost instant pain relief. After the
workshop, the machine became unavailable, and Tom could not buy one (probably a Food and Drug Administration issue). Tom was left with only his micro-current machines.

Then LifeWave, Inc., sought him out. This company has been using a nanotechnology process of altering amino acids, thus changing the molecule’s properties so that when transmitted by electrical conduction into the body, they serve as a photic receptor to stimulate the specific frequency that the inventor (David Schmidt) wished to have stimulated. Wrapping these molecules in nontransdermal patches and applying them to an acupuncture site caused photo receptor activity to stimulate the intended electromagnetic frequency. The patches were initially developed by David Schmidt at NASA to extend the energy level of Navy Seals who had to be positioned in posts for an extended period of time, such as during the rescue of U.S. boats from the Somalian pirates. The energy patches would immediately and continuously generate adenosine triphosphate for the muscle mitochondria to avoid muscle fatigue. Tom researched numerous patches for the company, initially to see that the patches were generating an increase in electrical conductance.

Tom’s long-term study was conducted with carnosine patches. Carnosine is one of the natural substances of the body that declines as the body ages. It is a dipeptide that regulates metabolism. With its decline, the body rapidly loses the regulatory ability for metabolism, and the body resorts to advanced glycosylation, an oxidative stress process forming advanced glycation end toxins responsible for destruction of collagen, wrinkles, cognitive decline, diabetes, and, gradually, cataracts. The study of a month of carnosine patches showed a remarkable significant improvement in cognitive processes (the dependent variable) as compared with a control group.

Tom’s penchant for a solid theory about the electromagnetic system of the body was satisfied when a literature research unearthed studies as far back as 1964 when two Asian scientists, one in Korea and one in Japan, were able to study the structure of the electromagnetic system through a specific dye. This dye was able to reveal a fine mesh of ducts (called Bongham ducts for the first inventor) covering all major organs and even within blood vessels. Thus far, recognition of this structure is evident only in European and Asian literature since the 2000s. So Tom found himself no longer dependent simply on acupuncture theory, although the acupuncture points (where the ducts are more often located) was useful to Tom.

I would have left a tag end out of Tom’s theoretic practice if I didn’t mention his last groping toward his lifelong considerations about consciousness. Some ideas were reawakened by Lynne McTaggart’s (2007) book The Intention Experiment: Using Your Thoughts to Change Your Life and the World. While trying to understand homeopathy and spiritual healing, the author had moved “the field” into quantum physics. Tom’s bite into it was only a nibble.

Death in February 2011

I think that Tom’s weaving of a theoretical fabric of the human body took many turns. Though his theoretical model was never fully articulated, it provided a solid basis for his clinical practice as it evolved over the years. Tom passed away on February 14, 2011. His technician, Lonnie Hubbard, posted the news of Tom’s death on his Facebook page, and more than 200 responses came back that day. Among the friends were many former patients. That week, Lonnie met with the patients as each one’s appointment time came, and for Lonnie it was a week of repeated wakes for Thomas Budzynski.

References


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