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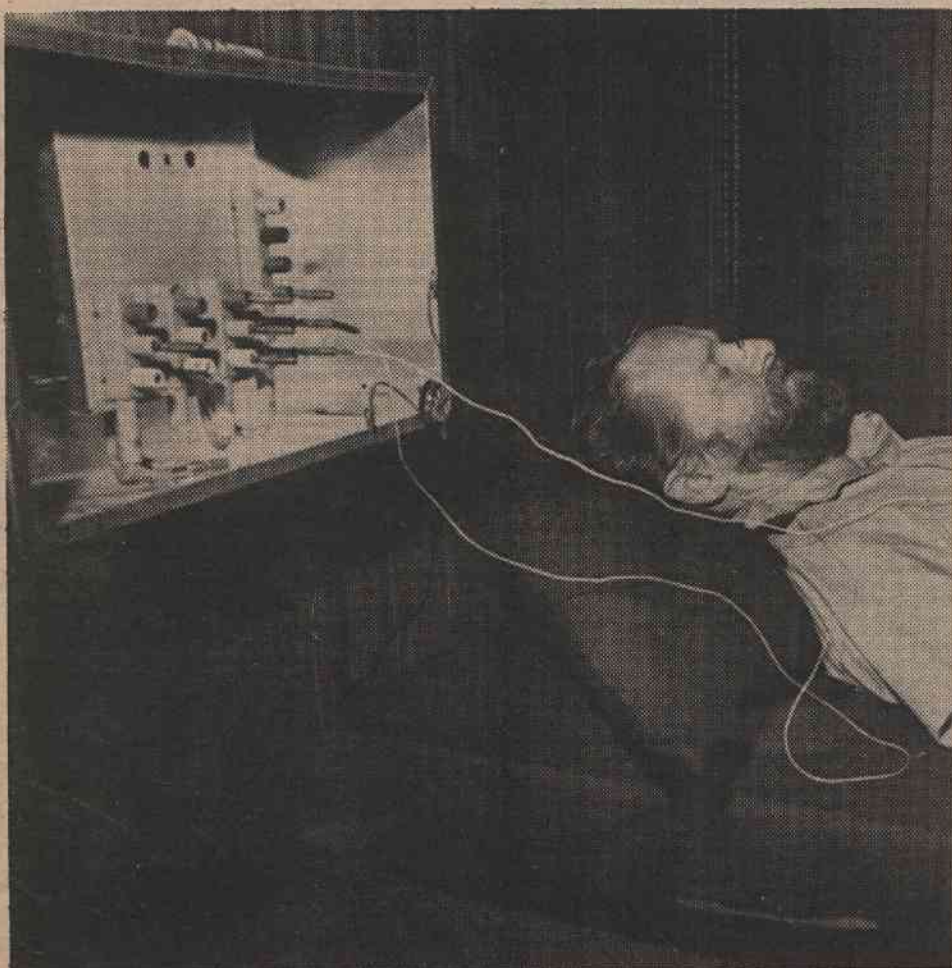
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DURHAM, NORTH CAROLINA

Biofeedback from the Brain

❖ 'Experiential Lab' Aids Self-Awareness



BRAIN WAVES MADE AUDIBLE—By equipment in another room, researcher Dr. John Artley, professor of electrical engineering, descends into deep relaxation in the Experiential Learning Laboratory at the School of Engineering. Artley controls his body's autonomic nervous system by modulating the tone generated by the brain's alpha and beta waves. Biofeedback, he says, has helped lower high blood pressure and control anxiety in some people who have mastered the technique. (Photo by Jim Wallace)

B. Kulik, C. Branch

2 New Directors Named To Head Medical Records

"One of the key elements in the structure and function of a large medical center, like Duke, is the Medical Records Department," emphasized Bill Kulik, recently appointed director of the department.

Joining Kulik in the direction and coordination of the department's activities is Carolyn Branch who is filling the newly created position of assistant director.

A native of Carbondale, Pa., Kulik attended the Thomas Nelson Community College in Virginia where he earned certificates in automatic data processing systems and computer programming.

In 1949 he began his long career in the army and worked primarily as a Non-Commissioned Officer In Charge of the Registrar Division. During the 26 years he was in service he held various administrative positions all over the world in the medical records departments of hospitals ranging in size from 100 to 1000 beds.

From the Arctic Circle to Capri, Italy,

Kulik has gained much of his knowledge about hospitals and record keeping from practical experience.

Before retiring as master sergeant in the army in 1974, Kulik spent his last six years of military service at Ft. Monroe in Virginia. There he served as a member on the Continental Army Command Surgeon's staff where he acted as a consultant for 38 military hospitals located in the continental United States.

In his present position at Duke, Kulik will be in charge of the internal organization of the department and the external coordination with medical staff and personnel to ensure effective operation of the record keeping system.

Miss Branch is a native of Greenville, N.C. and received both her A.B. degree in psychology and B.S. degree in medical records science from East Carolina University.

After completing her Bachelor of Arts degree in 1970, Miss Branch worked as a social worker at the Craven County

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Cloaked by darkness broken only slightly by four luminescent panels in the ceiling, I lay stretched out on foam padding, tense and admittedly wary of what was about to happen.

Staring at me through the gloom were two loudspeakers standing guard in the far corners of a wood-paneled sanctum so unnaturally quiet that I was certain I could hear my heart beating.

Three tiny wires ran from my head and left arm to receptacles in the wall just behind me. In my right hand, I sweatily gripped a metal box with five buttons.

Outside my sanctum, John Artley and Ross Dunseath adjusted dials and occasionally glanced at the pips and waves dancing across the green face of an oscilloscope. An electroencephalograph waited to process yards of paper at the flip of a switch.

Suddenly, what I had entered the sanctum for happened. A tone rose in intensity, then began to vary wildly in pitch, much as wind whistling through power lines. It was the "sound" of my own brain.

This, I mused half-seriously, would be like home to Boris Karloff. Artley and Dunseath should have gone into special effects for Hollywood rather than electrical engineering at the university.

Artley's disembodied voice quickly shattered my train of thought. "Can you hear the tone?"

"Yes," I said meekly, directing my voice at the ceiling. There was a microphone somewhere near me.

The tone grew louder. Artley said to relax as much as possible, just sink into self-awareness and try to lower the

frequency of the tone by mental effort alone.

Perhaps the body was willing, but the spirit certainly wasn't. My thoughts began to range over a wide spectrum. I conjured up memories of a storm-racked beach on the Outer Banks, wind howling and salt spray biting my face. The tone rose in pitch, sharply.

Moments later, I stood under the blue glaze of a Montana sky, high on a flower-strewn mountainside trespassed by a gentle breeze. The tone fell in pitch.

So it went, for about 15 minutes in the "Experiential Learning Laboratory" at the School of Engineering, where John Artley and other members of the Duke community use the brain's alpha and beta waves in a quest for self-awareness and control.

After the experiment, Artley left graduate assistant Dunseath and entered the carpeted sanctum that he often occupies himself to achieve deep relaxation through biofeedback techniques similar to the one I had just undergone.

"How do you feel?" he asked.

"OK, but I guess this is the ultimate in bugging."

Later, Artley showed me the visual record of the electroencephalogram, which recorded on paper the up-and-down tone I produced with my own brain waves. At one point, he said, I almost reached the system's cutoff switch when the brain wave frequency dipped rapidly.

Artley is a full professor of electrical engineering. But he doesn't fit the

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NEW DIRECTORS

—Two new directors have been appointed to head the Medical Records Department at the hospital. Bill Kulik has been named director and Carolyn Branch has filled the newly created position of assistant director. Both Kulik and Miss Branch will be responsible for the organization and coordination of the department's activities. At the present time the department has a staff of 63 members who are involved in the operation of record keeping. (Photo by Dale Moses)