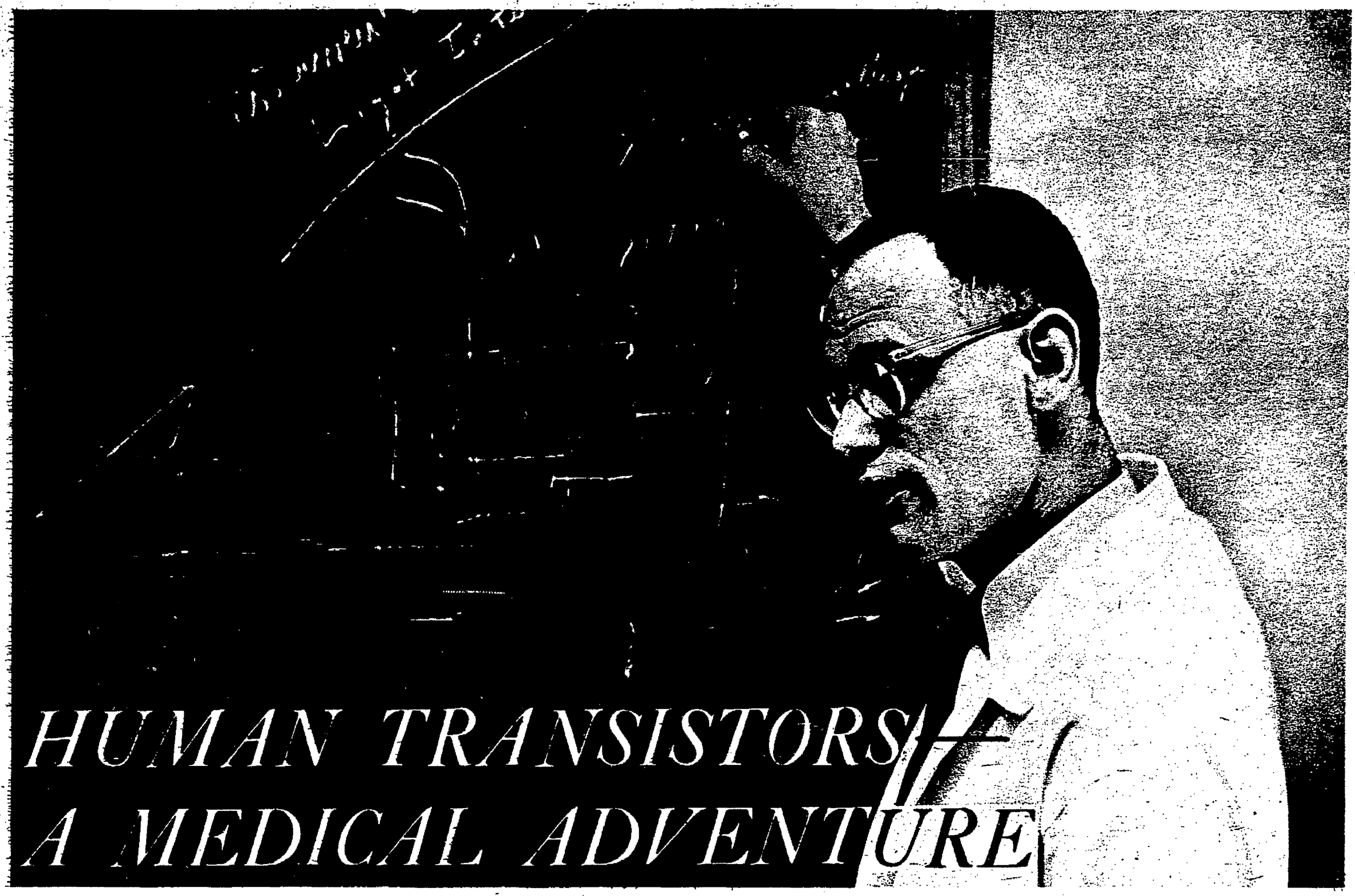
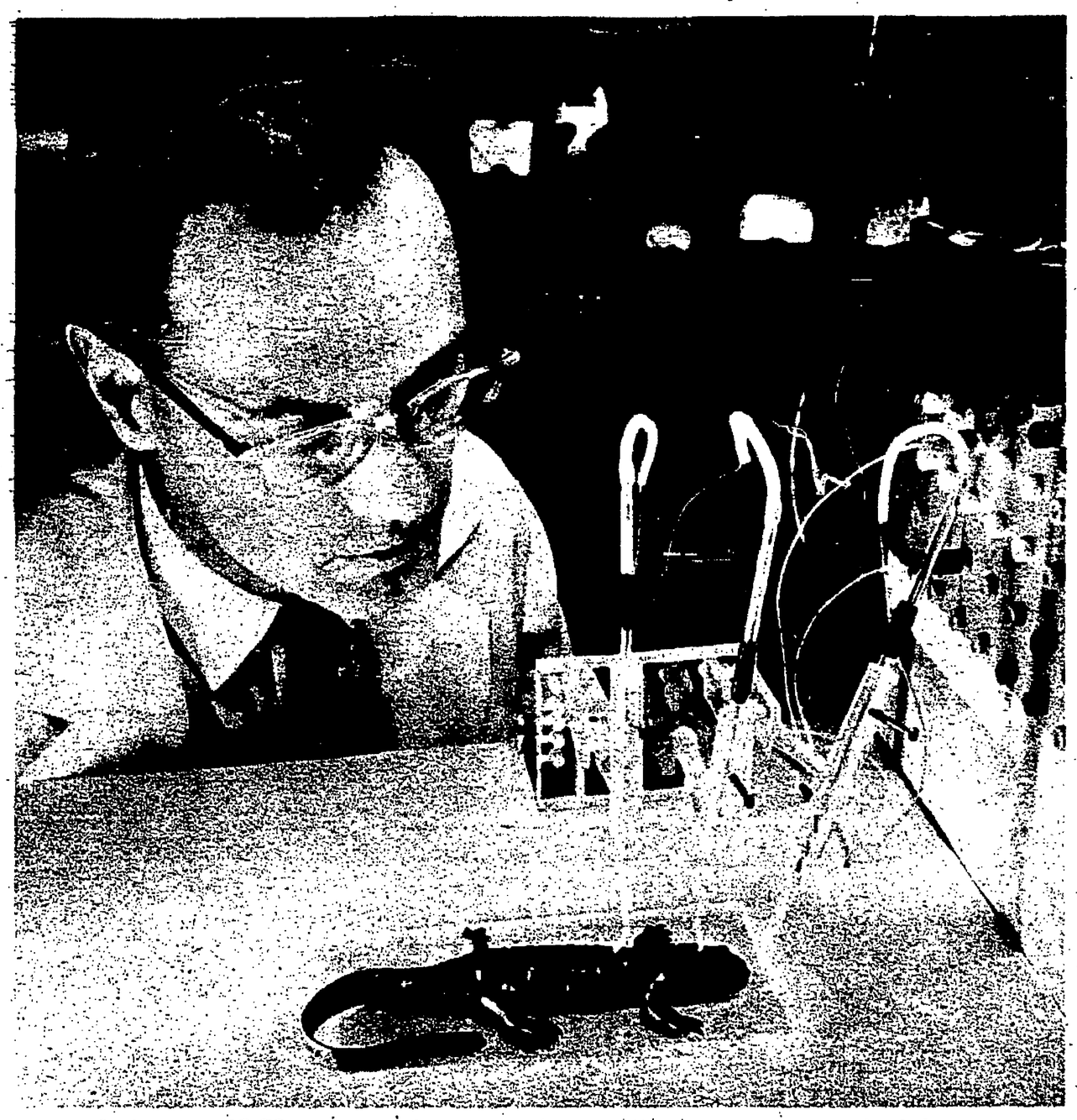


HUMAN TRANSISTORS: A MEDICAL ADVENTURE



A SALAMANDER is anesthetized electrically in Dr. Becker's laboratory. When the amphibians were knocked unconscious the electric currents in their heads were reversed.

By CONNIE MYER

SEVERAL hundred years ago it was believed man was controlled by a power similar to magnetism. The Viennese physician Mesmer plied an apparently profitable trade "curing" diseases by applying magnets to various parts of human bodies.

Long ago chalked up as sheer superstition, the practice of animal magnetism today might net its quack practitioner a jail sentence. But no responsible scientists since Mesmer's time really have tried to chart precisely the electric currents in human bodies.

A Syracuse VA Hospital orthopedic surgeon and other researchers, however, are stepping over the shadowland of this superstition onto the firm ground of scientifically sound medicine in a journey into hitherto unknown areas in "bioelectronics" —the electrical fields within living organisms.

The research of Dr. Robert O. Becker and his associates indicates that billions of tiny transistors operate in our bodies' bones and nerves to flash out signals for growth. They have evidence that human bone has precise electrical currents which operate from semiconductor-like substances. Their electrical activity is like that in transistor radios and phonograph pickups.

Though this discovery may seem esoteric to anyone except biophysicists and electronics engineers, it could have unprecedented implications for curing human ailments. For example, some persons' bone fractures just don't knit as quickly as those of others. Doctors long have wished there was a way to speed up healing.

The discoveries of Dr. Becker suggest that the application of electric current can step up the growth of new bone tissue. And it might some day be possible to destroy a cancerous bone tumor by applying an electrode.

The bone electrical field discovery, which came to culmination several months ago, marks the first time anywhere that a complete growth control system has been worked out in any tissue. Assisting Dr. Becker in the bone research is Dr. Charles Bachman, professor of physics at Syracuse University, and Dr. C. Andrew L. Bassett, associate professor of orthopedic surgery at Columbia Presbyterian Medical Center.

Their bone growth work began with study of the regeneration of salamander limbs. When a salamander's nerve trunk was severed, they found he couldn't regenerate a new limb to replace one that was cut off. If the nerves were intact, regeneration