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## SPACE MEDICINE BRANCH REPORT

### President's Message

[Sam Pool set a hard cadence with that 12 and 0 record for Space Medicine Branch articles during his tenure. I was a member of the SMB Executive Committee when we unanimously agreed that the space in the journal should be put to good and regular use. As my friends on the Harleys say: "what goes around, comes around".]

It seems highly probable that most of us who read this page with any regularity consider ourselves people of vision. Why else would we sustain an interest in a field of medicine that presents to so few such rare opportunities to actually do anything but plan.

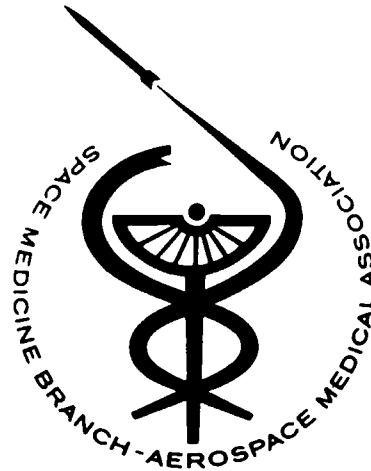
If, indeed, any of us actually do have "the sight," it must oscillate between deep-space science fiction and today's practice of occupational medicine and public health to be of any real immediate value. The "vision" will suffer from severe nystagmus due to the jerking around we get from the part of our imaginations that is aware of the limitations necessarily imposed upon us by engineering and physics. It will develop discipline diplopia, or professional polyopia, under the trauma of "new systems" responsibilities. It will suffer from photophobia caused by every super-brilliant new discovery that must be fitted into our earlier concepts. Enough of that!

What I hope to do on this page in the coming months is to list—for our immediate and future consideration—opinions and serious questions addressing the continuing evolution of space medicine. Of obvious concern: How far ahead can we reasonably plan? How should we direct that planning? How should we time-line our planning? How broad or narrow should be our professional responsibilities? What will we use in exercising those responsibilities? What should be our training requirements and personnel complement?

To get a good cross-sectional feel for all this, I would like to include material from physiologists, nurses, dentists, engineers, and technicians, as well as physicians. I shall try hard to do this. But do not wait for me to pull your chain. If you have serious thoughts on these issues, send them in. You can have a byline if you like, or remain anonymous if you prefer.

One of our early articles has been requested from Jim Logan at JSC who has the responsibility for the Space Station Health Maintenance Facility project. My cell mate, Wyck Hoffer, is chewing on some ideas as he puts the finishing touches on his new observatory, and Craig Fisher will hopefully do something for us on clinical laboratories. I'll try to tie it all together before Las Vegas. This ought to be fun.

Paul Buchanan  
1986-87 President



**SPACE MEDICINE BRANCH AWARDS**  
—(Top photo) Carolyn S. Leach-Huntoon, Ph.D., right, receives the Space Medicine Branch Hubertus Strughold Award from 1985-86 President Sam Lee Pool, M.D. (Lower photo) Millard F. Reschke, Ph.D., left, accepts—on behalf of Scott J. Wood—the Young Investigator Award from Dr. Pool.

### NASA-developed image enhancement improves NMR scans

The software used by NASA to improve the definition and scale of remote-sensing images from satellites is being applied to scans of the human body made by nuclear magnetic resonance.

The software can provide better information on a tumor's size and location as well as its "biological attitude," says NASA. In the future, the software will also change the gray-scale on the NMR scans—which are black-and-white images now—into various colors in order to help physicians more easily interpret what they see.

The project has been a 3-year collaboration between NASA's National Space Technology Laboratories in Bay St. Louis, MS, NASA-Kennedy Space Center, FL, and Washington University's Mallinckrodt Institute of Radiology, St. Louis, MO.

### Chandler-Petrofsky Nobel nominees

Two members of the Aerospace Medical Association who have been making great strides in restoring walking capability to paraplegics, have been nominated for the Nobel Prize in the field of medicine.

Chandler Phillips, M.D., and Jerrold S. Petrofsky, Ph.D., both work at Wright State University, Dayton, OH. Dr. Phillips works out of the Department of Engineering. Dr. Petrofsky is Executive Director of the WSU National Center for Rehabilitation Engineering.

Together they have given new hope to paralytics unable to walk because of spinal cord injuries.

Through the use of computerization and subminiature components attached to the leg muscles, they have been able to synchronize muscle stimulation to permit walking. The system also exercises the long-unused muscles, increasing their strength and endurance.

In a recent insertion in the *Congressional Record*, Rep. Thomas N. Kindness (R-OH) praised their "incredible break-through in the new field of biomedical engineering" and cited two examples of what their work has meant.

"Last summer," he said, "Wright State University student Nan Davis was able to walk a few steps toward her diploma aided by a portable computer unit which controlled electrical stimulation to her paralyzed leg muscles. Another student, Susan Steele, has become the first quadriplegic to walk with the Petrofsky-Phillips system."