

# Space Medicine Association

## Business Meeting Held During the Annual Meeting of the Aero Medical Association

*Washington, D. C., March 19, 1952*

**A**T NOON on March 19, 1952, Statler Hotel, Washington, D. C., the annual business meeting of the Space Medicine Association of the Aeromedical Association was called to order by Dr. John P. Marbarger, acting chairman for Colonel Paul A. Campbell, USAF (MC), Chairman. There were about fifty persons attending.

The minutes of the last business meeting, held at the Shirley Savoy Hotel, Denver, Colorado on May 17, 1951, were read by the Secretary, Dr. Hubertus Strughold and accepted for the record. The business of appointing officers for the coming year 1952-1953 was conducted, and appointments were made as follows:

Dr. John P. Marbarger was elected Chairman, succeeding Colonel Paul A. Campbell, USAF (MC) retiring.

Capt. J. R. Poppen was elected Vice-Chairman, and Dr. H. Strughold was re-elected as Secretary-Treasurer-Bibliographer.

Dr. Clayton S. White was elected Chairman of the Membership Committee succeeding Capt Ashton Graybiel, retiring.

Dr. James P. Henry was elected Chairman of the Program Committee succeeding Dr. Andrew C. Ivy, retiring.

A vote of thanks was extended to all the retiring officers for their excellent services during the past successful period in office.

Recommendations were made and adopted by unanimous vote:

That Colonel Cullen and Colonel A. P. Gagge be elected to clear up the question on the requirements for application for membership in both the Aero-medical Association and Space Medicine Association.

That the term of office for any officer elect is not to exceed a period of one year.

That a fee of \$2.00 per year be assessed each member to provide a fund to the Secretary for use in administrative expenses during the ensuing year.

That the next business meeting be held at the annual meeting of the Aero-medical Association in Los Angeles, California, in 1953.

Dr. H. Strughold, as Bibliographer of the Space Medicine Association, submitted the following reports:

Report on the development of space medical literature, revealed that two papers were published in 1949, seven papers were published in 1950 and nine papers were published in 1951. The first book on the subject, *Space Medicine — The Human Factor in Flights Beyond the Earth*, edited by

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Dr. John P. Marbarger, was published by the University of Illinois Press in 1951. At the Symposium on Physics and Medicine of the Upper Atmosphere, held in San Antonio, Texas, in November, 1951, of the forty-two papers presented, twenty of the papers were space medical in nature.

Report on the membership of the Space Medicine Association revealed the following:

Charter Members (present at first meeting) .....	15
Charter Members (absent but elected).....	20
Charter Member Col. Tuttle (deceased, 1951) .....	1
Total .....	36

The following applicants were voted upon and unanimously elected as new members of the Space Medicine Association of the Aeromedical Association:

Ralph L. Christy  
Fred A. Hitchcock  
Adolph T. Krebs  
Harold J. Richards  
Phillip B. Phillips  
William V. Whitehorn

At the close of the business meeting Dr. John P. Marbarger introduced the speaker, Dr. Clayton S. White, who gave the following address:

### The Challenge to Space Medicine

BY CLAYTON S. WHITE, M.D.

The formation of the Space Medicine Association was a formal recognition of a new frontier in Aviation Medicine. The sciences surrounding the design, manufacture, and operation of aircraft have advanced amazingly in the past two decades and the advent of practical jet and rocket power truly have placed the industry at the gates of space.

Already, engineering talent is probing this region and in doing so they have sought the aid of several sciences, among them those of upper-atmospheric physics, thermodynamics, metallurgy, navigation, et cetera. If those responsible for the biology of flight are to keep pace of this advance, they too must marshal their forces. This

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task is broad—not only must all the disciplines allied to medicine and biology be utilized, but so must those of the physical sciences noted above. The Space Medicine Association must recognize this in a practical way. The task is stupendous and significant achievements will come only from a true welding of talent operative first at a planning level, then at the levels of research, design, production, test, and operations.

A true appreciation of this thought stems from recognition of the role played by basic research, for it is from the fundamental data of the past that comes the applied techniques and machines of today. Insurance of the future in this regard demands that a strong basic research program be planned and aggressively followed.

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through. Application of this thinking to Space Medicine broadens one's perspective, a necessary prerequisite for gaining the necessary vision to face the task involved.

In planning future aeromedical and space medical research, the co-operation of those trained in all the related sciences is required. This co-operation will not just happen—at least a process of natural evolution will not accomplish the fact soon. To me this means that someone or some organization must assume leadership, recognize the problems, and work toward concentrating varied talent to the desired ends. Perhaps the Space Medicine Association can and should play a significant role here. I feel the Association may fail to reach any significant stature unless it aggressively seeks the membership of physical scientists. Too, the organization should take its problems into the scientific meetings of rocketeers, geophysicists, astrophysicists, engineers, et cetera.

Some effort has already been initiated to bring about co-operation among scientists of varied interests in planning future aeromedical research. I refer to the Symposium on the "Physics and Medicine of the Upper Atmosphere" which was held in San Antonio, Texas, November 6-9, 1951. The meeting was jointly sponsored by the USAF School of Aviation Medicine and the Lovelace Foundation for Medical Education and Research, of Albuquerque, New Mexico.

The primary objective of the Symposium was to collect available unclassified data needed to form a background of information essential to the planning of aeromedical research to allow

manned flights into and beyond the outer fringes of the atmosphere of the earth. Plans for the Symposium recognized that a similar attack should be made on classified material, and that final research plans could only be made by working teams of experts armed with information which truly took them to the frontiers of knowledge.

Those who planned the Symposium also recognized another very significant fact; namely, that undistributed information was simply and practically equal to no information at all. Consequently, the San Antonio Symposium was documented in book form, released July 1, 1952, by the University of New Mexico Press, Albuquerque, New Mexico. The book is approximately 750 pages in length and carries the title, *The Physics and Medicine of the Upper Atmosphere—A Study of the Aeropause*. It is composed of twenty-one chapters containing contributions from thirty-four of the world's leading scientists representing talent from the fields of radiobiology, upper-atmospheric physics, Aviation Medicine, toxicology, and aeronautical engineering. It is hoped that this volume will play a potent role in creating regions of common interest among individuals basically trained in biology and the physical sciences.

A sound beginning has been made, but the foundation which has been laid by the Symposium will be of no avail if there is no follow through. The classified information must be analyzed and tabulated; problems must be anticipated in a conceptual way to avoid the often embarrassing experiences of hindsight; plans for investigative work

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must be made; and lastly must come a decision which will not only finance the research, but will place the projects within organizations best suited to the problem at hand.

I do not know whether a manned satellite is a practical possibility or even if its accomplishment is related to the security of the United States and the free world. I am convinced, however, that if a manned space vehicle is possible, we in this country should learn how the task is to be accomplished at the earliest possible date. Too, it is my firm conviction that there is urgency in the national situation and that all individuals and organizations must share responsibility. Manned flight in the very high atmosphere, of a practical nature, will be an expensive affair. It will not just happen. It must be brilliantly conceived, intelligently planned, and

soundly followed through.

Engineering talent has publicly stated that from the point of view of power, and air-frame, a satellite was possible in 1945. Is there an individual in the Space Medicine Association, in the military, or in civilian life, who is now willing or qualified to write the biological specifications to allow engineers to build a satellite suitable for human occupancy?

This is the Aeromedical Challenge, and it involves a pioneering adventure which will sharply tax the ingenuity and vision of the broadest intellects available. Space Medicine, its associations and allied organizations, can and should play a significant role in the venture ahead. The gates of space are truly open and progress in the conquest may depend on the interest, training, and wisdom of many who read these words.