

A Snapshot of the Early History of the Space Medicine Branch

as Presented at the 1992 Annual Meeting in Miami Beach by John P. Marbarger, Ph.D.*

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To understand the origin of the Branch, one must understand the times, the associated events both in and out of government and the medical community, including the parent organization, the Aero Medical Association. The idea of spaceflight and space travel were not well established at the time. The Aero Medical Association was still recovering from the upheaval of World War II and clinical aviation medicine presented a full agenda for its members.

However, there were some rather earthshaking events beginning to happen within the government that served as harbingers of the future of space medicine. In November 1948, a Space Medicine Symposium was held at the USAF School of Aviation Medicine at Randolph AFB, TX. This was initiated as another of General Harry Armstrong's innovations. The symposium featured the thinking of the several staff members of the School who had come to the United States following World War II from Germany (Project Paper Clip). The symposium was of sufficient success that General Armstrong ordered the establishment of a new Department of Space Medicine at the School in February 1949. This gave the organizational structure needed to allow these visionaries to pursue this new vista in a structured way.

The effort of the new Department was brought to the outside scientific community one year later in Chicago. In March 1950, the staff of the Department of Space Medicine participated in the program at the Chicago Executive club noon luncheon. Dr. A. C. Ivy, an early convert to the importance of the new vista, spaceflight, served as the program chairman for this luncheon and had persuaded General Armstrong, Wernher von Braun, Dr. Hubertus Strughold, Heinz Haber, Colonel Paul Campbell and Dr. Konrad Buettner to make presentations. It was well received! More importantly, since these space pioneers were to be in Chicago for the luncheon program, Dr. Ivy also proposed to hold a seminar on this subject that same evening at the University of Illinois, College of Medicine in Chicago. Four weeks before the seminar he assigned to me the tasks of arrangements, publicity, and to serve as the foil for deflecting the many comments from the faculty about this "far-out Buck Rogers" program after the announcement of the seminar went up. I reserved a lecture room that would hold 250 people. To do this I had to make a projection that the attendance would be between 200-250 and, therefore, I would need this large room. As time lapsed I became increasingly concerned that I was going to look foolish and the 4 weeks of ridicule heaped upon me by my fellow faculty members did not ease my concern prior to the night of the seminar. At some periods during this time I felt that I would consider a turnout of 25 to be an excellent one. What actually happened astonished me, and certainly pleased Dr. Ivy. The lecture hall was jammed; standing room only! Estimates of at least 275 were made even though no count was made. Regardless of the reasons those attending came, all went away impressed and a bit overwhelmed.

Dr. Strughold was obviously pleased and "encouraged" me to gather the papers that had been presented at the seminar and get them published. (All who knew Dr. Strughold recognize that "encouraged" by him really was a "command.") Thus, I undertook this task with the support of Dr. Ivy. With his assistance I was able to persuade the authors and the University of Illinois Press to publish the reports made at the seminar. Seven thousand copies of the book, *SPACE MEDICINE*, were printed in the first printing and were sold in 6 months. Two additional printings of 8,000 copies each were printed and these were sold during the next 3 years. Copies of this publication are now considered classic, and copies are hard to come by. The seed for developing space medicine was sown!

Interestingly enough, the 1950 annual meeting of the Aero Medical Association also was held in Chicago. With the recent seminar in March having been such a success, a small band of space advocates held a parallel meeting during the annual meeting to plan their next strategic move to further organize the space medicine effort. Again this effort was chaired by Dr. A. C. Ivy. Others attending were: Dr. E. J. Baldes, Colonel R. J. Benford, General O. O. Benson, Dr. K. Buettner, Colonel P. Campbell, Captain A. Graybiel, V. Guillemin, F. Haber, V. K. Henschke, Dr. H. J. Schaefer, Colonel B. Strickland, Dr. H. Strughold, and me. You will recognize that many of those who attended this meeting became major contributors to the Aviation Medical Association, later changed to the Aero Medical Association, and

more recently named the Aerospace Medical Association. The agenda for this meeting was most ambitious and I think you will find it most interesting. Included were:

1. Discussion of the possibilities for affiliation with existing professional groups or the formation of a new separate organization. Discussion included the joining with Aero Medical Association, the National Space and Rocket Society, and the possible formation of a separate Space Medical Society. It was decided that the effort would be better served within a medical environment and, therefore, under the umbrella of the Aero Medical Association in some capacity. The approach chosen was to petition to become a Constituent Association as allowed in the Constitution of the Aviation Medical Association.

2. A discussion of the Environmental problems to be encountered in space (still quite contemporary).

3. Problems of instrumentation that could be used during space analog testing and later during flight (still contemporary).

4. The requirements for extensive study of the physical characteristics of near and deep space to insure that studies conducted in the biological sphere were appropriate for meeting man's entry into spaceflight (little has changed).

5. A small ad hoc group, which included myself, were appointed to prepare the petition and the proposed constitution for this new venture, as preparation for their submission to the parent organization for approval for admission as a Constituent organization.

6. Preparation of a list of additional members this parent group wanted to recruit.

By October 1950, I had completed a draft of the petition and the constitution. The petition requested that we be accepted as a Constituent Association and called the Space Medicine Branch. Dr. Paul Campbell, took these documents to Executive Committee of the Aviation Medical Association soon thereafter. The Branch was accepted as the Space Medicine Branch in May 1951.

The first meeting of the new Branch was held during May 1951, in Denver. The election of the first officers was conducted. Dr. Paul Campbell was selected as President for 1951-52; Dr. H. Strughold was selected as the Secretary and Bibliographer; Captain A. Graybiel as Chairman of Membership; Dr. A. C. Ivy as Chairman of the Program Committee. For the program, two proven performers, Dr. H. Strughold and H. Haber, presented papers.

In November 1951, an International Symposium, entitled "Physics and Medicine of the Upper Atmosphere," was held in San Antonio, TX. This meeting brought together science, medicine, engineering, and government organizations from around the world to examine the issues involved in conducting spaceflight. This symposium was sponsored by Air Force Air University School of Aviation Medicine by its Commander, Brigadier General O. O. Benson and his staff and with arrangements handled by Lovelace Foundation for Medical Education and Research through the efforts of its Research Director, Dr. C. S. White. You will recall that both General Benson and Dr. White had been active in the formation of the Branch.

Our 1952 meeting was held in March along with the annual meeting of the parent organization. I was elected Acting Chairman for this meeting, since Colonel P. Campbell could not attend. I called the meeting to order and we were able to perform our elections. I was chosen to be the Chairman for 1952-53; Captain J. R. Poppen, Vice Chairman; Dr. H. Strughold continued as Secretary and Bibliographer and was also chosen as our first Treasurer; Dr. C. S. White, Chairman of Membership; Dr. J. P. Henry, Chairman of the Program Committee. One issue raised and hotly discussed was the requirement that all members of the Branch, as a Constituent Organization, must also belong to the parent organization. Annual dues of \$2.00 per year were established; and the terms of all officers were established to be for 1 year. Dr. C. S. White of the Lovelace Clinic presented the program with a paper entitled "The Challenge of Space."

Later in July 1952, Dr. J. P. Henry carried out the early Aerobee rocket ballistic flights which carried the first living animals into the near space environment. Dr. Henry deserves a lot of credit and recognition for getting these flights off under less than ideal conditions, as regards financing and support. Although the experiments were quite simple in design, the results were dazzling for all of these early space

enthusiasts. It provided actual information about a subject which many of the pioneers had talked about for the preceding years. I must note that Dr. Henry's future plans for flight experiments were cancelled shortly thereafter by higher military authority, due to there being "no future" for such efforts.

Getting the Branch established, in retrospect, proved to be the easy part. Troubled waters came during our next year. In May 1953, the next meeting of the Space Medicine Branch was held in Los Angeles and Captain Poppen presided in my absence. The primary issue discussed again during the business meeting concerned the qualifications for membership in the Branch and the related membership in the parent organization which allowed only physicians to be full members. Non-M.D.'s could only be Associate Members and were not considered to be on a par with full members. Thus, highly-competent and fully-qualified potential scientific members for the Branch could not become full members of the parent organization. Fortunately, many of these scientists felt so strongly about the future of space medicine that they swallowed their irritation with this second-class status and joined the parent organization as Associate Members in order that they might belong to and participate in the Branch. Twenty-three of these scientists joined and became a strong advocate and support group of the Branch. (It should be noted that it took continuous pressure from the Branch, which pointed out the inequity of this dual membership, until 1957 to get the Associate Membership category of the parent organization abolished.) The Branch can take a lot of the credit for moving the parent organization into its current strength, the melding of the many disciplines into a single federation, professionally and organization-wise. Incidentally, an outstanding scientific session was organized and presented by the Branch as part of the overall scientific program for 1952, a practice which has continued, on-and-off, throughout the years.

Rather than listing year by year the officers of the Branch, I would like to refer you to a publication, "The History of the Space Medicine Branch of the Aerospace Medical Association. Section I from Concept to Sputnik 1, 1950-1957," prepared by Dr. Paul A. Campbell. I think anyone interested in this history will enjoy the history of the birth, childhood, and beginning adolescence of the Branch.

At the meeting of the Branch in March 1954, the primary concern at the business meeting addressed the issue of examining the existing mechanisms for getting papers published in the parent journal. It was felt that a more formal process was needed that would lead to what we now call "peer review" prior to publication. Dr. R. Benford, who was becoming the new editor of the *Journal of Aviation Medicine*, noted that the papers originating in the Branch could be published in the Journal if properly prepared and space was available. He also strongly believed that for a scientific journal to have professional acceptance that a "peer" review system must be used in selecting papers for publication. This position became the policy of the Branch. At the same meeting there was an expression of criticism from the parent organization about the Branch conducting separate sessions and presentations in parallel with the annual scientific program of the Aero Medical Association. Attendance at the annual Branch meetings had grown to about 40 members.

In March 1955, 88 members attended the Branch meeting. The primary issues included the continuing problem of the dual membership status, member and associate member, noted above, and the high-visibility national political debate that was now underway concerning the proposition of future spaceflight. Ballistic Missile development was well underway, and thereby offered a means of transportation for space exploration. The debate hotly discussed the issue of unmanned versus manned flight. A major effort included in the scientific program of the Aero Medical Association that year addressed issues that were related to spaceflight. Space Medicine-related papers were grouped into an afternoon session and did much to allow our members to understand the debate and what was going to be needed from medicine to engage in this debate.

Dr. R. Benford assumed the job as Editor of the Journal in January 1955, and this opened up the opportunity for publication of well-prepared papers, which had received critical review, in the Journal.

In 1956, I served as the Scientific Program Chairman for the Aero Medical Association annual meeting. The current practice of submitting abstracts by potential speakers was started; the program committee initiated the practice of having simultaneous scientific sessions and having related papers grouped into topics or themes. At this meeting there were 47 papers and a symposium with a space medicine orientation out of a total of 135 papers for the entire program. There still existed considerable turmoil between the parent organization and the Branch. Included in the turmoil was an apprehension that the Branch was becoming too influential in all aspects of the parent op-

eration, including the scientific program. Some of the non-space interested members felt the parent was losing its focus on the other elements of its membership; some of the Branch members agreed that their efforts had been too successful and would offend the other members of the Aero Medical Association. There was no resolution of these issues in 1956, but they were to be reopened for discussion in 1957 at the annual meeting.

The annual meeting for 1957 was held in May in Denver. Dr. F. Hitchcock, who was Chairman, reopened the discussion of the issues. It was noted that the number of papers related to space medicine had continued to grow in the overall scientific program of 1957 and there was little need to further push this effort as a Branch. In fact, it was discussed that such emphasis might prove counterproductive. It was felt that the parent organization had now embraced most of the earlier goals of the Branch within its daily operation. Therefore, it was concluded that the Branch should downplay its direct role in the scientific program development and allow its members, who were now serving as officers of the Aero Medical Association or on many of the committees of the parent, to look out for interests of space medicine as part of their normal duties. As to its new mission, the Branch would continue to serve as the point of focus to stimulate the interest of younger members in space medicine; to maintain a scientific and program watch on the area; to offer assistance to those who were pursuing space medicine research, and hopefully flight; and to assist the annual scientific program planning when requested. This has been the course that has been followed by the Branch since that time. Incidentally this was also the year when all became full members of the Aero Medical Association and removed a long-time irritant to the non-M.D. members.

Sputnik flew later that year, in October. Many of the issues related to whether space medicine was to become important or not became moot. Those issues related to whether too much emphasis was being placed upon this field by the parent organization dissolved. The movement to a national goal to spaceflight, including manned spaceflight, became a reality. The Journal shifted to a monthly publication in May 1959 and there was now ample opportunity to get many more papers published much more quickly. Further, the parent organization recognized the change in climate with a change in its name to the Aerospace Medical Association in May 1959. I had the good fortune to be selected to be the new Editor of the Journal, *Aerospace Medicine*, in October 1959, soon after this shift in name. By this appointment, I was able to assure that the journal included a continuing discussion of what was happening and what was important in the rapidly developing field of Space Medicine during my tenure as Editor.

**EDITORIAL NOTE:* In 1991 the President of the Space Medicine Branch requested that the Branch Historian prepare a summary presentation on the history of the Branch, as part of the celebration of the Branch's 40th anniversary. The response to this effort was impressive. Several of the older members of the Branch expressed appreciation to the Historian, at the same time many of the more recent members expressed interest in learning more about the origin of the Branch and requested that the early history be made available. The President for 1992, Dr. Richard Jennings, asked the Historian to pursue this request. Accomplishing this request revealed that much of the documentation of the early events was lost quite a number of years ago; several of the early pioneers have died; most of the remaining pioneers are retired or will be retiring in the near future. Therefore, the Historian felt it was important to get the recollections and the experiences of those remaining pioneers on record so all could benefit by their words and, hopefully, have a face to face discussion with them. It was with this goal in mind that the Historian asked Dr. John Marbarger, one of three original organizers of the Branch, to share his experiences with us at the 1992 annual meeting.

That which is included above incorporates the notes Dr. Marbarger used in his presentation with augmentation from his comments made during his presentation and in separate conversations. Dr. Marbarger has graciously reviewed what the Historian has prepared, but any shortcomings should be attributed to the Historian, not Dr. Marbarger.

It must be noted that Dr. Marbarger made a special trip to Miami Beach just for this presentation and, as the Historian, I want to personally thank him for his willingness to do this. By publishing this snapshot, I hope the history of the Branch will become a permanent part of the legacy we inherited from these giants who made a difference.

Stanley C. White, M.D.
Space Medicine Branch
Historian