

TWENTY-SECOND ANNUAL MEETING

- 2:40 "Problems of In-Flight Feeding for the Fighter Pilot."
MAJOR WILLIAM E. BILLS, USAF (VC), Aero Medical Laboratory,
Wright-Patterson Air Force Base, Dayton, Ohio
- 3:00 "Personality Research in Aviation Selection."
LT. JOSEPH F. SNYDER, MSC, USN, Bureau of Medicine and Surgery,
Washington, D. C.
- 3:20 *Intermission for purpose of viewing Exhibits*
- 3:40 "The Visual Link Test in the Selection of Aircrew in the RCAF."
DR. A. C. BURT and DR. E. P. SLOAN, Institute of Aviation Medicine,
RCAF, Toronto, Ontario, Canada
- 4:00 "Recent Navy Aero Medical Equipment Developments."
LT. CDR. M. D. COURTNEY, MC, USN, Naval Air Material Center, Phila-
delphia, Pennsylvania
- 4:20 "Further Studies on the Etiology of Motion Sickness."
W. H. JOHNSON, R. A. STUBBS, and C. C. GOTLIEB, Institute of Avia-
tion Medicine, Toronto, Canada
- 4:40 "Further Studies on Airsickness Preventives."
H. I. CHINN, Ph.D., COL. O. H. WALTRIP, USAF (MC), and MAJOR
H. W. MASSENGALE, USAF, USAF School of Aviation Medicine,
Randolph Air Force Base, Texas

PAPERS TO BE READ BY TITLE

1. "Influence of the Oxygen-Lack on the Functional Cortical Fitness."
PROFESSOR J. MALMEJAC, University of Algiers, Algeria, North Africa
2. "Treatment of Water Supplies for Aircraft."
SIR HAROLD E. WHITTINGHAM, Director of Medical Services, British Over-
seas Airways, London, England
3. "Standardization of Terminology and Analytical Procedures in Accelera-
tion Studies."
FREDERICK DIXON, M.S., and JOHN L. PATTERSON, M.D., Emory Univer-
sity Medical School, Georgia
4. "L'action paradoxale de l'oxygene."
DR. ROBERT GRANDPIERRE and DR. CLAUDE FRANCK, University of Nancy,
Nancy, France
5. "L'efficacite de l'adrenaline au cours de l'anoxemie."
DR. ROBERT GRANDPIERRE, DR. CLAUDE FRANCK and DR. R. R. LEMARIE,
University of Nancy, Nancy, France

Meeting of Informal Committee on Space Medicine

AT THE INVITATION of Andrew C. Ivy, M.D., and Paul A. Campbell, M.D., an informal group met at noon on May 31, 1950, in the Palmer House in Chicago during the annual session of the Aero Medical Association to discuss the organization of a branch or section on Space Medicine as provided for Article III, Section 4 of the Constitution of the Association. Those present included: Edward J. Baldes, Ph.D., Colonel Robert J. Benford, USAF, Brigadier General Otis O. Benson, Jr., USAF, Konrad Büettner, Ph.D., Captain Ashton Graybiel, USN, Victor Guillemain, Jr., Ph.D., Fritz Haber, Ph.D., Heinz Haber, Ph.D., Ulrich K. Henschke, M.D., John P. Marbarger, Ph.D., Hermann J. Schaefer, Ph.D., Colonel Benjamin A. Strickland, Jr., USAF, and Hubertus Strughold, M.D. Acting as chairman of the meeting, Dr. Ivy, following brief introductory remarks, introduced Dr. Strughold of the USAF School of Aviation Medicine who reviewed the international status of the field of space flight research in a prepared paper. He was followed by Dr. Heinz Haber who outlined certain medical problems peculiar to rocket flying in a manner which well illustrated the need for establishing a special group for Space Medicine, preferably with the Aero Medical Association. Both of these reports were incorporated in the committee's files.

The need and desirability for animal experimentation in rocket flights and the possibility of an affiliation with certain projects now being undertaken by the Armed Forces, was emphasized by General Benson, the Commandant of the USAF School of Aviation Medicine. He pointed out that considerable biological information must be obtained in this manner before manned rocket flight can be accomplished. An inquiry by Dr. Baldes regarding the security classification of such experimental data was answered by both Dr. Ivy and General Benson who expressed the opinions that this information could be made available to interested workers such as those in the Space Medicine group.

Summarizing the need for an organization devoted to Space Medicine, Dr. Campbell pointed out that no such group is now in existence in the United States. Such an organization, he explained, could assist and advise the Armed Forces on Space Medicine problems, disseminate information on pertinent problems which arise, and function as a liaison group between universities, aeronautical engineering firms and federal agencies in the consideration of research projects in this new field of science. Colonel Benford suggested that the group formally petition the Aero Medical Association for a branch membership in Space Medicine. This was put in the form of a motion which was seconded and passed

by those present.

The group also voted to include the names of other members of the Aero Medical Association who are interested in furthering such research, but were unable to attend the meeting, among the charter members of the Space Medicine Branch if its organization and affiliation with the Association is approved. These include: Major General Harry G. Armstrong, USAF, Louis H. Bauer, M.D., Captain Albert R. Behnke, USN, Dietrich E. Beischer, Ph.D., Captain Leon D. Carson, USN, Bruce Dill, Ph.D., Wallace O. Fenn, Ph.D., Colonel A. P. Gagge, USAF, Otto Gauer, M.D., Commander Charles F. Gell, USN,

Rear Admiral Bertram Groesbeck, J. USN, F. Gregg Hall, Ph.D., James P. Henry, M.D., Joseph Kaplan, Ph.D., Captain Wilbur E. Kellum, USN, George J. Kidera, M.D., W. Randolph Lovelace, II, M.D., Captain John R. Poppen, USN, Lieutenant Colonel Henry M. Sweeney, USAF, Lieutenant Colonel John M. Talbott, USAF, and Colonel Arnold D. Tuttle, USAF (ret.).

Prior to adjournment, a temporary sub-committee to prepare the necessary petition for Branch Membership was named, consisting of Dr. Ivy, Chairman, Dr. Marbarger, Secretary, Colonel Benford, Dr. Campbell and Captain Graybiel.

National Bureau of Standards, U. S. Department of Commerce, Washington, D. C.

NUCLEAR DATA

A valuable tool for nuclear physicists and engineers, radiochemists, biophysicists, and other workers in the rapidly expanding field of nuclear physics is now available in the tables of "Nuclear Data" recently compiled by the National Bureau of Standards. These tables, which may be obtained from the Government Printing Office, are to be followed by supplements of new material at six-month intervals.

The initial volume of the tables, together with the supplements, will present a comprehensive collection of experimental values of half-lives, radiation energies, relative isotopic abundances, nuclear moments, and cross sections. Decay schemes and level diagrams, over 125 of which are included in the tables now ready, are to be provided wherever possible.

At present over 1,000 new measurements of different nuclear properties are being reported each year in some thirty different journals and in the reports of dozens of different laboratories. The reactor engineer and the industrial or medical user of radioactive tracer materials, as well as the nuclear physicist, are thus in need of a listing of available data which can automatically be kept up-to-date.

All the more recent values of a given nuclear property are listed in the tables. Thus, from the degree of uniformity of the results, the reader can tell at a glance which nuclear constants now appear fairly certain and which are still quite doubtful. The references to over 2,000 original papers make it possible for the research worker to evaluate the details of previous investigations and to design experiments to resolve existing discrepancies.

Abstracts

CAA AUTHORIZING NEW FLIGHT COURSE USING LINK TRAINER.

By Barbara J. Ward. *American Aviation*, 14:57-58 (No. 11), (October 2) 1950.

As a result of its experiments to cut down flight time required to pass the private pilot flight test, the University of Illinois is being authorized by CAA to give a new pilot training course.

A proposed Civil Air Regulations amendment lowers the private pilot requirements in the university's course from the usual thirty-five hours to twenty-six hours at the aircraft controls. In addition, students must have eight hours of observer flight time and eleven hours of ground training in a School Link.

The instructors aim, not to decrease flight experience, but to condense the time required to teach a student conventional air work—the maneuvers he is judged by on the flight test—and release additional time for cross-country, night flying and radio work. The university wants a CAA-approved course consisting of ten hours in the School Link, ten hours of flight training in flight maneuvers and fifteen hours of night flying and cross-country use of airways and navigation aids.

In a recent experiment, 43 per cent of students receiving ten hours practice in the School Link passed the private pilot flight test given by CAA examiners, while only 19 per cent of those given ten hours flight time were passed. Of private pilots averaging 100 hours flight time, only 43 per cent passed. In the private pilot flight test, students with Link training surpassed those without in both emergency landings and general judgment. The freedom from noise and unaccustomed surroundings in Link practice appear to establish a feeling of security and a calm approach which carry over into actual flight.

Flight school operators will be able to apply many of the university's training methods. These are discussed.

The School Link, developed from the old

instrument-flight Link Trainer, can give the following flight characteristics: nose heaviness during turns, change in attitude with change of power settings, torque during takeoffs, elevator trim, stability, yaw, spins, power-on and power-off stalls and positive stall recovery.

HIGH-SPEED BAIL-OUT. By Malcolm Cagle. *Skyways*, 9:22-23, 40 (No. 10), (October) 1950.

With a "standard" chute, at 600 mph. the deceleration produced is almost 50 g. This plus the freezing temperatures and lack of oxygen in the atmosphere make high-altitude, high-speed bail-out a difficult problem.

For about 150 years, parachutes followed a rather stable design and size. A Frenchman named Garnerin made the first public jump on October 22, 1797, in Paris, using a 23-foot canvas chute with a hole in the top to let the air out.

During the war the Germans with their "ribbon" chute came close to the perfect parachute for high speed bailout. It could be safely operated at higher opening speeds, did not oscillate like the standard chute, and the opening snap was about 3 g as compared with 15-16 g with the standard chute. Disadvantages: it was slow to open, with fast rate of descent (43 ft./sec.), was bulky and hard to construct, and when packed a long time the ribbons tended to stick together.

In 1947 the Navy developed an experimental chute with a 6-foot cap attached to the rest of the canopy by heavy elastic cords. At high speeds the cap opened a gap between itself and the rest of the canopy, the air spilled out and, as the chute slowed down, the elastic bungees drew the cap back into position. This simple modification boosted the 217-knot opening speed of the standard chute to 430 knots.

A new nylon fabric, "rip-stop" nylon, makes possible a better and stronger chute. To lessen the danger of tearing and shredding, a tough cross thread is sewn into the material every quarter inch; a tear tends to restrict itself between threads.