

to the space program: respiratory physiology and cardiovascular physiology. The two study groups were charged with determination of the current state of knowledge in their field, the assessment of problem areas related to space travel, and the course of future research to implement space travel. The products of these two studies are presented in separate volume. Other reports, such as the Space Medicine Advisory Group Study of 1966¹² and the Space Science Board Summer Study of 1965,¹³ deal with general problems in the biomedical areas. Also, there have been a large number of specific studies in the biomedical area, and these are referenced where pertinent in the papers in this volume. In addition, the U.S. Air Force, in support of its Manned Orbiting Laboratory (MOL) Program, has undertaken a study of the specific problems and possible applications of remedial measures in pertinent biomedical areas. By delineating specific areas, it is intended that the two volumes from the 1966 conference be more comprehensive and suggest longer-range research with approaches that require extensive planning to assure the long-range result. The selection of participants for the summer conference was guided by the need to cover areas of specific interest to the space program and to involve a number of scientists who are not directly concerned with space biomedical research as well as many who have, or have had, contact with the program. This volume deals with the respiratory physiology and relevant medical problems. Present and applied problems, including medical questions such as infection and toxicology, are discussed. In addition to the rather specific discussion and recommendations concerning the practical and applied problems, this report also suggests a number of basic experiments, such as experiments to validate the predicted changes in pulmonary function, especially the ventilation-to-perfusion ratio, in different regions of the lung. The report indicates that no striking effects have been noted in respiratory function in space flight to date, nor is there expectation of any debilitating effect from prolonged space flight. There are problems introduced by the artificial environment and other supportive mechanisms that are necessary for maintenance of man in space.

-- Cond. from Forward

*Medical Aspects of an Orbiting Research Laboratory, NASA Special Publ. 86, 1966. (Available from Superintendent of Documents, U.S. Government Printing Office, Washington D.C., price \$1.00.

¹³Space Research: Directions for the Future, NAS-NRC Publ. 1403, 1966. (Available from Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Avenue, Washington, D.C., price \$7.50.

- 728 Hearts—Their Long Follow-Up. Paul Dudley White, M.D. and Helen Donovan. AVAILABLE FROM: W.B. Saunders Company, West Washington Square, Philadelphia, Pa. 19105. 357 pp (Feb. 13, 1967). PRICE: \$12.00.

Some readers of the Digest will remember an address by Dr. White (in 1962, at the 27th IHF Annual Meeting Management Conference¹⁴) in which he stressed the great change he had observed in the nature of heart disease during the preceding 40 years of practice of cardiology. At the beginning of his career, he had spoken of rehabilitation of young workers with heart disease because rheumatic heart disease was predominant. Middle-aged workers apparently had less heart problems and also coronary heart disease was less often recognized in the population. Today, rheumatic heart disease and other heart diseases of infectious origin are much better controlled, and the major problem of concern to industry is disease of the arteries: atherosclerosis, which affects the inner walls of important arteries throughout the body. In his Foundation talk, Dr. White stressed the importance of heredity, but indicated certain additional, environmental factors of etiological importance which include: 1) rich diets 2) physical inertia and 3) heavy use of tobacco. Those wishing additional details of Dr. White's professional experience, which now spans about 50 years, should welcome this new volume, which is written for non-specialists as well as cardiologists. It will be of special interest to those in industry who recognize the value of the "long follow-up" in medical research, and who share Dr. White's hopes that such research will "be more widely recognized, effected, and supported particularly in establishing a base line of the natural history of various diseases for comparison with the effect of the many new medical and surgical therapeutic and preventive measures that are being constantly introduced." This book contains 86 clinical cases and 63 illustrations including electrocardiograms, chest x-rays and graphs showing chronic illness trends over the past 25 years. Dr. White's bibliography from 1913-64 includes 598 separate articles. His other writings, which number 112 are also listed, as are the subjects of the nine other books on the heart which he has written. Thus, this interesting book, which will be useful to individuals in many fields besides medicine provides an entree to the life of Dr. White and to the field of cardiology in which he has labored so long and successfully.

-- RTPdeT.

*White, Paul Dudley, M.D., "Heart Disease—A Matter of Concern to Executives" A.M.A. Archives of Environmental Health 6, 309-311, (March, 1963).

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