
Rule Modifies Certification Procedures

Therefore, the Agency believes that the changes would streamline certification procedures, eliminate unnecessarily long delays in reconsideration of action on certification, and provide that the applicant or certificate holder furnish the Administrator the requested medical information or history necessary to determine whether an applicant for, or the holder of, a medical certificate meets the medical standards for it.

FAA WELCOMES COMMENTS

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views or arguments as they may desire, to be received at the FAA, Rules Docket, on or before February 23, 1966.

Details concerning submitting such statements are provided in the following announcement which is provided in its entirety as published in the Federal Register.

Administrator may suspend, modify, or revoke a certificate, or refuse to issue it.

Interested persons are invited to participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the Federal Aviation Agency, Office of the General Counsel, Attention: Rules Docket, 800 Independence Avenue S.W., Washington, D. C. 20553. All communications received on or before February 23, 1966, will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

At the time of the recodification of § 406.12 (d) and (e) of Part 406 of the regulations of the Administrator into § 67.25 and 67.27 of Part 67 of the Federal Aviation Regulations, effective November 1, 1962, a change was made with respect to the finality of action by authorized representatives of the Federal Air

Surgeon (then designated as the Civil Air Surgeon) within the Agency. Accordingly, § 67.25(b) currently provides that any reconsideration action taken by such an authorized representative, for the Administrator, under subsection 314(b) of the Federal Aviation Act of 1958 (49 U.S.C. 1355(b)), is itself subject to reconsideration by the Federal Air Surgeon. Previously this second review was not available. Also, by an accompanying 1962 change, § 67.27 currently provides that the denial of a medical certificate not only by an aviation medical examiner, but also by a representative of the Federal Air Surgeon (within the Agency), is not a denial by the Administrator under section 602 of the Act. Consequently the regulations allow "reconsideration of a reconsideration," and at the same time postpone the right of the applicant or certificate holder, who has been denied, to review by the CAB until the additional review has been afforded.

The intent of these 1962 changes was to provide maximum avenues of relief to an applicant or certificate holder. However, operational experience during the last several years indicates that the number of procedural steps involved under the present regulations, the delays incident to the geographic distances separating the Federal Air Surgeon and his authorized representatives, and duplication of activity in the field and at headquarters, have unnecessarily prolonged final official determination in the area of medical certification.

To alleviate this situation, the proposed amendment of § 67.25 would allow authorized representatives of the Federal Air Surgeon within the Agency to finally reconsider actions of aviation medical examiners. It no longer would be necessary for an applicant or certificate holder to appeal to the Federal Air Surgeon for finality with respect to a denial of the medical certificate. In this connection, § 67.25 also would be amended to require the Federal Air Surgeon or his authorized representative within the Agency who upon his own initiative reverses or otherwise changes the issue of a medical certificate by an aviation medical examiner, to do so within a fixed period of 60 days, and to provide that otherwise the medical certificate would be considered affirmed as issued. This provision would protect an applicant who has received a medical certificate from unconscionable delay in reconsideration of its issue. At the same time, § 67.27 would be amended to require the surrender, upon request, of a medical certificate whose issue

is reversed or otherwise changed, upon reconsideration. This would provide a regulatory obligation to return a certificate that, upon reconsideration within the prescribed time, is found to have been issued to an applicant who in fact does not meet the applicable medical standards.

The proposed amended § 67.27 would provide that the denial of a medical certificate by an authorized representative of the Federal Air Surgeon within the Agency is considered the final action, from which appeal may be taken to the CAB under section 602 of the Act. For expeditious disposition of appeals within the Agency, requests for reconsideration now would be addressed to the Federal Air Surgeon, Attention: Chief, Aeromedical Certification Branch, Civil Aeromedical Institute, Oklahoma City, Okla.

Both §§ 67.25 and 67.27 would be amended to provide that the representatives of the Federal Air Surgeon authorized to take final action would be the Chief, Aeromedical Certification Branch, Civil Aeromedical Institute, and Regional Flight Surgeons. The proposal to vest final authority under these provisions with qualified officials of the Agency in field offices is in keeping with the Agency's policy of decentralization.

Section 67.31 currently provides that the Administrator may suspend, modify, or revoke any issued medical certificate or, in the case of an applicant, refuse to issue a medical certificate, upon refusal of the holder or applicant to authorize a doctor or other source of medical information or history to release that additional information or history considered necessary to determine whether the holder or applicant meets the applicable medical standards. This section would be amended to provide specifically for the same action if the holder or applicant refuses to furnish information requested from him.

In consideration of the foregoing, it is proposed to amend Part 67 of the Federal Aviation Regulations as follows:

1. By amending § 67.25(b) and adding a flush sentence at the end of the section to read as follows:

§ 67.25 Delegation of authority.

(b) The authority of the Administrator, under subsection 314(b) of the Federal Aviation Act of 1958 (49 U.S.C. 1355 (b)), to reconsider the action of an aviation medical examiner is delegated to the Federal Air Surgeon, and his authorized representatives within the FAA. However, any action taken under this paragraph by the Federal Air Surgeon or such a representative upon his own initiative that reverses or otherwise changes the issue of a medical certificate by an aviation medical examiner, must be taken within 60 days after the date of the issue. If this action is not taken within 60 days after the date of the issue, the medical certificate is considered affirmed as issued.

* * * * *

In this section, the term "authorized representatives within the FAA" means the Chief, Aeromedical Certification Branch,

Civil Aeromedical Institute, and Regional Flight Surgeons.

2. By amending § 67.27 to read as follows:

§ 67.27 Denial of medical certificate.

(a) Any person who is denied a medical certificate by an aviation medical examiner may, within 30 days after the date of the denial, apply in writing to the Federal Air Surgeon, Attention: Chief, Aeromedical Certification Branch, Civil Aeromedical Institute, Federal Aviation Agency, Post Office Box 1082, Oklahoma City, Okla. 73101, for reconsideration of that denial. He must send with his application a copy addressed to the aviation medical examiner concerned. If he does not apply for reconsideration during 30 days after the date of the denial, he is considered to have withdrawn his application for a medical certificate.

(b) The denial of a medical certificate by an aviation medical examiner is not a denial by the Administrator under section 602 of the Federal Aviation Act of 1958 (49 U.S.C. 1422). The denial of a medical certificate by the Federal Air Surgeon or his authorized representative within the FAA is considered to be a denial by the Administrator under that section.

(c) Any person shall surrender, upon request, any medical certificate whose issue is reversed or otherwise changed upon reconsideration by the Federal Air Surgeon or his authorized representative within the FAA.

In this section, the term "authorized representative within the FAA" means the Chief, Aeromedical Certification Branch, Civil Aeromedical Institute, and Regional Flight Surgeons.

3. By amending § 67.31 to read as follows:

§ 67.31 Medical records.

Whenever the Administrator finds that additional medical information or history is necessary to determine whether an applicant for or the holder of a medical certificate meets the medical standards for it, he requests that person to furnish that information or authorize any clinic, hospital, doctor, or other person to release to the Administrator any available information or records concerning that history. If the applicant, or holder, refuses to provide the requested medical information or history or to authorize the release so requested, the Administrator may suspend, modify, or revoke any medical certificate that he holds or may, in the case of an applicant, refuse to issue a medical certificate to him.

These amendments are proposed under the authority of sections 303(d), 313(a), 314(b), 601, 602, and 609 of the Federal Aviation Act of 1958 (49 U.S.C. 1344, 1354, 1355, 1421, 1422, 1429).

Issued in Washington, D. C., on December 16, 1965.

P. V. SIEGEL,
Federal Air Surgeon.

[F.R. Doc. 65-13747; Filed, Dec. 23, 1965; 8:45 a.m.]

Dr. Wood to Give First Harry G. Armstrong Lecture

Effects of Gravitational and Accelerative Forces on Cardiopulmonary Physiology



Earl H. Wood, M.D., Ph.D.

As announced at the 1965 Annual Business Meeting of the Association, and reported in the Minutes, the Executive Council approved the establishment of a new Annual Lecture to be given during the Annual Scientific Meetings to be known as the Harry G. Armstrong Lecture. Like the Louis H. Bauer Lecture, this will be one of the highlights of the forthcoming meeting, and also like the Bauer Lecture, which is supported by one of the Association's Corporate and Sustaining Members, the Pfizer Laboratories, the Armstrong Lecture was proposed and will be sponsored by the Smith Kline & French Laboratories.

The first Lecture has been scheduled for presentation this year in Las Vegas at the 37th Annual Meeting on Wednesday, April 20, and will be given at an unopposed afternoon session. It is particularly fitting that this lecturship should be named for General Armstrong, a former president of this Association and an internationally recognized authority on aviation and space medicine, in which he pioneered as a research scientist, eminent author, and the architect for the great Aerospace Medical Center at Brooks AFB, Texas. Each year the lecturer will be chosen from among physicians and scientists who are outstanding in a particular specialty field related to areas of aerospace medical disciplines.

The field, chosen by the Executive Committee for the first presentation of the Harry G. Armstrong Lecture and believed to be of great interest to all attendees, is Cardiovascular Physiology. Dr. Earl H. Wood, M.D., eminent investigator and writer on cardiopulmonary and cardiovascular functions in health and disease, associated with the Mayo Clinic and Foundation, presently engaged in work and study at the University of Bern, Switzerland, will present the first Armstrong Lec-

ture on the subject, "Effects of Gravitational and Accelerative Forces on Cardiopulmonary Physiology."

Dr. Earl H. Wood has been associated with the Mayo Clinic and Foundation since 1942 and for the past several years has been pursuing research under a career investigatorship awarded by the American Heart Association. He is one of the world's most outstanding investigators and prolific writers in the field of hemodynamics, pulmonary and blood gas transport, the cardiovascular effects of accelerative forces, and the clinical aspects of cardiopulmonary and cardiovascular function.

In 1963, Dr. Wood was the recipient of the Aerospace Medical Association's Eric Liljencrantz Award which is given each year for the best paper on basic research in the problems of acceleration and altitude published in *Aerospace Medicine*. His basic postgraduate training was unusually broad and thorough. This included uninterrupted research and teaching experience over the period 1934 through 1942 during which time he pursued M.S. and Ph.D. degrees in Physiology and Physical Chemistry, managed concurrently to earn an M.D. degree and spend a year as a National Research Council Fellow in Medical Sciences at the University of Pennsylvania.

His list of publications is remarkable, numbering several hundred. Significantly, they center about the physiological, pathological and clinical aspects of cardiovascular, vascular and renal functions. The development of basic instruments, techniques and methodologies over a long period of time, basically in the 1940's and again in the early 1960's, on the biological effects of accelerative forces and centrifugal forces, the hemodynamic, cardiovascular and cardiopulmonary malfunctions occurring during prolonged application of G forces, has contributed greatly to the medical success of the Manned Space Program.

Dr. Wood is a member of numerous other medical and scientific societies including the American Physiological Society of which he is a member of the Editorial Board of the *American Journal of Physiology* and the *Journal of Applied Physiology*; the American Society for Clinical Research; American Society for Pharmacology and Experimental Therapeutics; The American Heart Association, in which he is a member of the Editorial Board of *Circulation*, and is past chairman and member of the Executive Committee of Basic Science Council and Educational Committee; Society for Experimental Biology and Medicine; and the American Society for Advancement of Sciences. He has served as a member of the Life Sciences Advisory Committee, NASA; the Anatomy and Physiology Fellowship Review Panel, NIH; Bioastronautics Panel, President's Science Advisory Committee; and as a member of the Study Group on Gaseous Environment of the National Academy of Sciences' Space Science Board.



Maj. Gen. Harry G. Armstrong

Major General Harry George Armstrong, during his five-year term as Surgeon General of the United States Air Force, served as the twenty-first president of the Aerospace Medical Association, 1951-1952. An eminent leader in aviation and military medicine, he was president of the Association of Military Surgeons the same year—the first physician to hold these high offices simultaneously.

Dr. Armstrong, born in 1899 on a farm in South Dakota, entered the University of Minnesota in 1917 but his education was interrupted by World War I and service in the United States Marine Corps. He returned to college in 1919, and transferred to the University of South Dakota in 1921 where he began his pre-medical studies. He received his medical degree from the University of Louisville School of Medicine in 1925, and following an internship at St. Luke's Hospital in St. Paul, Minnesota, entered private practice in Minneapolis. Expressing an early interest in aviation medicine, Harry Armstrong was commissioned a first lieutenant in the Medical Reserve Corps in 1929, and was a student at the School of Aviation Medicine in Texas at the time of the first meeting of the Association. He was designated a flight surgeon in 1929 and early in 1930, accepted a commission in the Regular Army.

Known as the "man who paved the way for astronauts", General Armstrong's text book "**Aerospace Medicine**", published in 1961, now undergoing revision, is world renowned, and is one of the most complete treatises (on this subject) in existence. His earlier book entitled "**The Principles and Practice of Aviation Medicine**" had appeared in three editions, was first published in 1939. In 1941, just prior to the entry of the United States in World War II, he was co-author with General Mal-

colm Grow, of "Fit To Fly", a medical handbook for fliers and American youths who wanted to be fliers. He has contributed more than 50 articles on aviation and space medicine.

While still a Captain, Doctor Armstrong, assigned as flight surgeon for the First Pursuit Group, Selfridge Field, Michigan, and former Surgeon General Malcolm Grow, then a flight surgeon at Patterson Field, became interested in many of the practical aviation physiologic problems encountered in association with test pilots, jointly developed the research program at Wright Field. The laboratory, now the Aeromedical Research Laboratory, under the Aerospace Medical Division of the Air Force Systems Command, was opened on 15 September 1934 with General Armstrong and General Grow named as co-founders.

To General Armstrong goes the credit for stimulating and unifying interest in this country in space medicine. As Commandant of the School of Aviation Medicine, Randolph Field, 1946-1949, he established the Department of Space Medicine. General Armstrong is quoted in an interview as stating, "Initially, we outlined every problem that exists today. We didn't overlook any problem that we now know about. We knew about the cosmic rays, for example. We knew about weightlessness—but what were the medical problems? How can they be simulated in a lab? We began the basic work there." "Aero Medical Problems of Space Medicine" an early statement of the problems, developed by a panel of widely-known authorities, sponsored by General Armstrong, was published in December 1949 in the *Journal of Aviation Medicine* (now *Aerospace Medicine*).

General Armstrong was responsible for arousing the membership of the Association to the action which subsequently culminated in the approval by organized medicine for certification in the specialty of Aerospace Medicine. He holds Certificate No. 2, in Aviation Medicine, issued by the American Board of Preventive Medicine. General Armstrong's many awards and citations include the Wellcome Award and Prize, of the Association of Military Surgeons, 1936; the Collier Trophy, as co-recipient with Drs. Bothby and Lovelace, 1940; the second recipient of the John Jeffries Award, 1941; and the Theodore C. Lyster Award of the Association in 1949; Military decorations include the Distinguished Service Medal, Legion of Merit, Croix de Guerre, Gold Medal of Honor of the French Air Force Medical Service, Gold Medal of the Chilean Air Force, the Order of the British Empire, the Medal of the International Congress of Military Medicine and Pharmacy, and the Brazilian Aeronautical Order of Merit.

It is expected that General Armstrong who now resides at Clifton, Virginia, will be on hand in Las Vegas for the presentation of the first Annual Harry G. Armstrong Lecture.

Lovelace Fellowship In Aerospace Medicine

The Aerospace Medical Association in its desire to record its deep sorrow at the death on December 12, 1965, of their esteemed associate and Thirtieth President, William Randolph Lovelace, II, and to acknowledge his many outstanding contributions to the advancement of Aerospace Medicine, announces its establishment of the William Randolph Lovelace Fellowship in Aerospace Medicine to honor his memory.

The Association in establishing this Fellowship will create a fund to fulfill this purpose. It will enlist the financial support and cooperation of those who wish to join in this effort to pay significant and meaningful tribute to the memory of William Randolph Lovelace, II.

It is fitting that his name should be memorialized in this manner, since he devoted his career to research, teaching, and practicing Aerospace Medicine. The Lovelace Foundation for Medical Education and Research which is famous for its research in aerospace and nuclear medicine was organized by Dr. Lovelace in 1947, and has become world famous in operations related to manned spaceflight.

The Association is deeply appreciative of his exceptionally broad record of service and scientific achievement which was characterized by his courageous willingness to undertake whatever was needed to be done, whether scientific, technical, organizational, or administrative. In addition to his Presidency of the Association in 1942 and 1943, Dr. Lovelace gave unstintingly of his time and services by serving on numerous committees and by his enthusiastic support of all the aims and purposes of the Aerospace Medical Association as it has developed and expanded the medical specialty field which he loved.

New Directory Includes Data On Member Specialties

The 1966 Directory of Members was mailed to the full membership of the Aerospace Medical Association this month heralding in a New Year of ASMA services to the aerospace field here and abroad.

In addition to the usual member and committee list information, the new biennial directory features medical and allied scientific specialty data on members. This is accomplished through a system of code symbols carried after the member's name in the Alphabetical Listing section of the directory.

Member specialty information has been listed for the vast majority of the membership when provided by the member via his membership application form or return of the special directory information questionnaire mailed to members last October.

In addition to medical and scientific designations and areas of special competence information, code data is also provided indicating Fellows of the Association, members certified in Aerospace Medicine by the American Board of Preventive Medicine, Aviation Medical Examiners of FAA, and where appropriate and available information on the company, agency or other group affiliation of the member.

Principal source for this valuable new service was the Directory Information Questionnaire mailed to members on October 21, 1965. Response to the survey was immediate and exceptional. Within two weeks, over 2,000 of the 4,030 surveys mailed were returned for a whopping big

53 per cent response. And in 30 days, members had mailed back over 2,800 forms, or 70 per cent of the total mailed.

Survey Response Exceptional

The results of this survey justify once again the Association's pride in a very vital and active membership. One of the most sensitive barometers of member loyalty and interest known to association management is the questionnaire-survey by mail. Since 1962, ASMA has had two other very gratifying experiences in this area.

In 1962, the Association undertook a complicated study of members' affiliations, medical interests, biomedical scientific specialties, Journal reader interest and habits, etc., through a lengthy questionnaire form. Response totaled a commendable 55 per cent.

And, in 1964, a survey carried out at the request of the National Aeronautics and Space Administration with reference to the section in AEROSPACE MEDICINE on "Abstracts of Current Literature" brought a 41 per cent response in just two weeks, also from a single mailing.

These survey results show clearly that ASMA members place a high value on their affiliation with the Association and continue to demonstrate their interest time and again, not only by serving on committees or on special projects but by sustaining the lines of communication and responding promptly to these communications from headquarters.

"Space Medicine in Project Mercury"—New Book by Dr. Mae Mills Link

Now on sale by the Superintendent of Documents, is an excellent book authored by Dr. Mae Mills Link, Life Sciences Historian, NASA Headquarters, Washington, which sets forth a chronological account of the medical support program. "Flavored with personal glimpses of the individuals making up this global medical organization, the chronicle portrays the manner in which scientists and technicians drawn from the three military medical services, from other agencies of the Federal Government, and from the civilian community at large were welded into a smoothly functioning team." This quotation, taken from the Foreword written by Dr. Hugh L. Dryden, the late Deputy Administrator, NASA, aptly describes this record of the legendary Project Mercury.

Dr. Link, who has been a member of the Aerospace Medical Association for many years, is a Fellow of the American Medical Writers Association, and is well known for her historical publication, "Medical Support of the Army Air Forces," co-authored by Hubert S. Coleman, in which the history of the Medical Service of the present United States Air Force is recorded. Before her affiliation with NASA, Dr. Link was the Senior Medical Historian of the United States Air Force.

The introduction of this book was written by Dr. W. Randolph Lovelace, II, NASA's late Director of Space Medicine, and was probably one of his last published writings. The closing paragraph of this Introduction states: "The present document is an attempt to record the way in which the medical community in par-

(Continued on Page 112)

Wives Wing Board Meets

Arrangements for the Aerospace Medical Association Wives' Wing activities at the Las Vegas meeting were discussed at a recent Board meeting chaired by Wives' Wing President, Mrs. Ross A. McFarland. While complete plans are not firm as yet, some of the highlights of the social events will be a Fashion Show during the President's Reception at 4:00 p.m. on Monday presented by the famous J. Magnum Company. Registration will be open on Sunday at the Wives' Hospitality Center at the "Sea Horse Pool Terrace," and all wives are urged to plan an early arrival at the beautiful Dunes Hotel.

The annual luncheon and business meeting will be held on Wednesday, April 20, in the "Dome of the Sea" room at the Dunes. Well along are plans for a four-hour tour to Hoover Dam, and a tour of some of the private residences in the Las Vegas area.



MAKING PLANS FOR ANNUAL MEETING—(Seated, l. to r.) Mrs. Robert A. Patterson, Publicity Chairman; Mrs. Jan Tillisch, Honorary Membership Chairman; Mrs. Ross A. McFarland, President; Mrs. Neal D. Sanborn, Treasurer; and Mrs. T. C. Marrs, Board Member at Large. (Standing, l. to r.) Mrs. Myron J. Woltjen, Membership Chairman; Mrs. Aubrey L. Jennings, 2nd Vice President; Mrs. Joseph P. Pollard, 1st Vice President; Mrs. John M. Talbot, immediate Past-President; Mrs. Henry G. Dorris, Secretary; and Mrs. Carl E. Pruett, Board Member at Large.

Executive Council Meeting



EXECUTIVE COUNCIL HOLDS MIDYEAR MEETING in Washington, D. C., December 3, 1965. (Seated l. to r.) Brig. Gen. John M. Talbot, Dr. Sean O'Quigley, RADM J. Lee Holland, Dr. Charles I. Barron, Maj. Gen. T. C. Bedwell, Jr., President Neal E. Baxter, Dr. William J. Kennard, Dr. James N. Waggoner, and Dr. Earl T. Carter. (Standing l. to r.) Dr. Don Flickinger, Mr. Alfred Gentilcore, Chairman, Corporate and Sustaining Member Committee; Brig. Gen. Won Chuel

Kay; Dr. Ross A. McFarland, Chairman, Resolutions Committee; Dr. John M. Marbarger, Dr. Dominic T. Chechile, Col. Stanley H. Bear, Mr. Aaron Bloom, Brig. Gen. B. A. Strickland, Chairman, Constitution and By-laws Committee; Capt. Frank B. Voris, Dr. Romney H. Lowry, Dr. Richard Trumbull, Capt. Joseph W. Weaver, Capt. Ralph L. Christy and Dr. Dan Vickers, Chairman, Safety and Health Committee. Attending but not shown Dr. Cortez Enloe, Jr.

Americans Visit Italian Air Force Medical Center

Colonel A. Scano, Director of the Italian Air Force Medical Center, Rome, reports that among many illustrious visitors who have been welcomed to the IAF Medical Center by the Director and by the IAF Surgeon General Thomas Lomonaco, were USAF Surgeon General, Richard L. Bohannon, and Major General



Maj. Gen. (now Lt. Gen.) Richard L. Bohannon, USAF Surgeon General, and Maj. Gen. Raymond T. Jenkins, Surgeon, USAF, meet Maj. Gen. T. Lomonaco, IAF Surgeon General, during their visit to the Aerospace Medical Center of Rome.

Raymond T. Jenkins, Command Surgeon, USAFE, who visited the center last September. Astronaut John H. Glenn also visited the center in October and was presented with a souvenir medal by General Lomonaco.



Maj. Gen. T. Lomonaco, IAF Surgeon General, presents Astronaut Glenn with a medal, as souvenir of his visit to the Aerospace Medical Center of Rome.

Colonel Scano also reported that the School of Medicine had established a civilian school of Aerospace Medicine. Begun in 1963, the school holds a two year post graduate course in aviation and space medicine attended by Italian and by foreign surgeons. The first graduates of the two-year course, graduated in July and were presented their diplomas by Surgeon General Lomonaco, who is Director of the School. The first Italian doctors graduated were: G. Tedeschi, G. Mazza, A. Ferrotti, C. T. Fiorito and F. Tomassi. Dr. A. Lopez Portana, from Spain, also received his degree in the same session.

Dr. Link (Continued from Page 111)

ticular, and the life scientists in general, provided clinical support for Project Mercury and, as a corollary, contributed toward the evolution of the long-range manned space-flight program. It is primarily a study in management, for only through the careful planning and manage-

ment of the Nation's resources—together with dedicated effort—could Project Mercury have been accomplished in such a short time. It is a record of which the Nation can be proud, for the first U.S. manned space flights were successful against great odds—odds such as any pioneering effort must always overcome.”