MDAH Director Receives Presidential Appointment

Dr. R. Lee Clark, MDAH Director and Surgeon-in-Chief, has been appointed by President Lyndon Johnson to The President's Commission on Heart Disease, Cancer and Stroke.

Dr. Michael DeBakey, chairman of the department of surgery at Baylor University College of Medicine, is chairman of the Commission.

President Johnson first made public mention of the Commission in his State of the Union message to Congress when he said it would be established "to recommend steps to reduce the incidence of these diseases through new knowledge and more complete utilization of the medical knowledge we already have."

The Commission held its first meeting at the White House on April 17, 1964. At the meeting, the President spoke to the group, charging them to direct their efforts toward evaluating the present status of knowledge about the diseases that are the three major causes of death in this country and to make recommendations concerning them.

Several subcommittees were established by the Commission to give intensive consideration to selected aspects of the group's mission. Dr. Clark is a member of two of these, the subcommittee on cancer and the subcommittee on communications.

The over-all task set before the Commission by President Johnson is monumental. Commission members will attempt to critically evaluate the mortality, morbidity, and disability statistics of the diseases; the economic impact of the diseases; the influence of these diseases on families; and the relationship of the diseases to poverty.

The extent of present knowledge available from research findings regarding the prevention, diagnosis, treatment, and rehabilitation for victims of these diseases will be established by the Commission and recommended by them to the President for action.

(Appointment, continued on page 3)

New Board of Visitors Member

Mr. Theodore N. Law, prominent Houston businessman and philanthropist, was recently invited to become a member of the Board of Visitors of the MDAH University Cancer Foundation. The University of Texas Board of Regents approved the appointment at its April meeting.

The University Cancer Foundation was established in 1955 by the Board of Regents to support MDAH in its major objectives. The purposes of the Foundation are to disseminate knowledge about neoplastic and related diseases, to encourage research and graduate study in the medical and basic sciences, and to encourage financial support for the realization of the goals of medical research and education, and patient care.

Acting as trustees for the Foundation, the Board of Regents established the Board of Visitors in 1957.

(Board, continued on page 2)

Virus Particles Found In Human Papilloma By MDAH Researchers

For the first time, virus particles have been demonstrated in human laryngeal papilloma cells. This finding was reported by Dr. Leon Dmochowski, chief of the MDAH section of virology and electron microscopy, at a symposium on leukemia recently held at the University of Chicago.

Biopsy specimens taken from human laryngeal papillomas were examined in the electron microscope following the application of new techniques of fixation, embedding, and staining of the specimens. In samples from a recurrent laryngeal papilloma of a 49-year-old man, many virus particles measuring from 300 to 400 Å in diameter were found in the cell nuclei. The particles were similar in size and cellular location to those found in human skin warts and rabbit papilloma, and in appearance and location to virus particles of mouse polyoma and SV40 in monkeys.

Similar virus particles were also found in biopsy specimens of recurrent laryngeal papilloma taken on several occasions from a 2½-year-old girl, and on specimens taken from three other patients at various intervals of time.

Other recent research of Dr. Dmochowski and his colleagues which has advanced the theory that viruses play some part in the phenomenon of human cancer is the demonstration of the similarity between virus particles found in tissues of leukemic mice, rats, chickens, and human beings.

Virus particles similar to each other have been observed in the organs of leukemic rats and mice. The mode of development and the relationship of these particles to cellular constituents appear to be the same, whether the leukemia is lymphatic, myeloid, or stem-cell. Cylindrical or filamentous (Virus, continued on page 2)
Year Book of Cancer In Press

The eighth Year Book of Cancer, compiled and edited by R. Lee Clark and Russell W. Cumnley, is currently in press and should be ready for publication late in August this year.

The Year Book is a select collection of abstracts of articles representing publications from the numerous clinical and fundamental disciplines related to and associated with cancer investigations. The detailed abstracts in these areas of endeavor represent what the editorial board considered the most significant articles published in the past year.

Selecting the articles, and assisting in preparation of the Year Book is an editorial board of 137 distinguished physicians and scientists, each well known in his own field.

The Year Book will contain more than 330 abstracts, and will follow the same outline as preceding editions of the book. This year the special section will be on the epidemiological study of cancer in a completely defined population; this El Paso report was especially written for the Year Book of Cancer by Miss Eleanor J. Macdonald, epidemiologist at MDAH, and Dr. Maynard M. Hart, medical director of the El Paso County Medical Society Cancer Follow-up Program. The book will be well illustrated with approximately 200 illustrations and 120 tables.

The Year Book of Cancer will be published by the Year Book Medical Publishers, Inc., 35 East Wacker Drive, Chicago, Illinois.
diseases will be assessed.

The degree to which the American people are receiving the best which modern medicine offers with respect to these diseases will be evaluated, as will the barriers that delay the utilization of medical knowledge developed in research centers.

As research produces new knowledge, difficulties of communications obstruct effective applications of the knowledge. Better methods must be found to inject this new knowledge into the daily practice of health workers and to educate the general public concerning it. Improved communications between research scientists should accelerate research efforts also.

Therefore, one of the major problems before the Commission is the improvement of communications of research findings. Dr. Clark has stated that the communications subcommittee is concentrating its efforts on this problem and hopes to be able to suggest newer and more imaginative ways for improving communications.

Mike Hogg Lecture For 1964

Nobel Winner Speaks

Nobel Prize winner, James D. Watson, professor of biology at Harvard University, gave the 1964 Mike Hogg Lecture, sponsored by The University of Texas Graduate School of Biomedical Sciences at Houston, on April 27 in the MDAH auditorium. The Lectures, underwritten by the Mike Hogg Fund, have been held annually since 1959.

Dr. Watson was awarded the Nobel Prize for medicine and physiology in 1962. Sharing the award with him were Dr. Francis Crick of the Cavendish Laboratory at Cambridge University in England, and Dr. Maurice Wilkins, deputy director of the biophysics research unit of the medical research Council at King’s College, London, England.

The three doctors received the award for their elucidation of the fundamental biological problem; they clarified the molecular structure of deoxyribonucleic acid (DNA), the component of the genes that direct the formation of the enzymes and other proteins required by the cell or the body.

A biochemist and educator, Dr. Watson received his B.S. and D.Sc. degrees from the University of Chicago, and his Ph.D. degree from Indiana University.

In 1959, Dr. Watson, with Dr. Crick, was awarded the John Collins Warren prize, given at Massachusetts General Hospital. In 1960, he was recipient of the Eli Lilly award in biochemistry given by the American Chemical Society. Also in 1960, he received the Albert Lasker award with Drs. Crick and Wilkins.

Dr. Watson has held research positions at several institutions, including the following: the National Research Council at the University of Copenhagen; the Cavendish Laboratory at Cambridge University; the National

New Staff

Newly appointed staff members at MDAH include the following:

Max Lee Kirk has been appointed assistant in radiology, section of diagnostic radiology, department of radiology. Dr. Kirk received his M.D. degree from the University of Tennessee. He served his internship at St. Louis County Hospital, and residencies at St. Lukes in Chicago and at Baylor University College of Medicine in Houston. He has instructed at Louisiana State University.

Scitoku Mizuno has been named visiting associate in biology (virology), department of biology. Dr. Mizuno received the M. D. degree at The Faculty of Medicine, Tohoku University, where he also served a rotating internship and residency. His previous appointments include: assistant in internal medicine at The Research Institute for Tuberculosis and Leprosy, Tohoku University; and associate professor of internal medicine, The Faculty of Medicine, Hiroaki University, where he was engaged in electron microscopy studies.

Alicia Ramirez has been named clinical assistant internist (part-time) in the section of hematology, department of medicine. Dr. Ramirez received the M.D. degree from the University of Puerto Rico School of Medicine, San Juan, Puerto Rico, served her internship at the D.C. General Hospital, Washington, and her residency at the V.A. Hospital, Houston. Prior to accepting this position, she served as staff physician and instructor in internal medicine at the V.A. Hospital in Houston, and as a project investigator in medicine here at M. D. Anderson Hospital.

Foundation for Infantile Paralysis; and California Institute of Technology. Dr. Watson has been in the biology department at Harvard since 1955.

At MDAH, Dr. Watson gave a summary lecture concerning the solved and unsolved problems involved in the mechanism of protein synthesis, i.e., how genes control protein synthesis, how they work and replicate.

Dr. Watson discussed the three types of ribonucleic acids (RNA); messenger RNA (mRNA), the template which carries gene information; ribosomal RNA, contained in ribosomes, which he described as miniature factories for assembly of amino acids into proteins; and soluble RNA (sRNA), which modifies amino acid molecules which are not attracted to mRNA so that they will attach to it. There is a specific sRNA for each amino acid.

In his lecture, Dr. Watson stressed that this problem of protein synthesis is being attacked from more than one angle. Geneticists are studying the replication aspect to determine what happens during the process of synthesis; biochemists are trying to determine all the steps and the mechanism of protein synthesis. As the problem is narrowed down and the answer found, these two approaches will come together.

Former lecturers for the Mike Hogg lecture series have been: Dr. Arthur Kornberg, 1959; Dr. Vincent du Vigneaud, 1960; Dr. Edward L. Tatum, 1961; Dr. Marshall W. Nirenberg, 1962; and Dr. Wendell M. Stanley, 1963. Most of these scientists have been awarded Nobel Prizes.
Signs of Progress

Since so much new research is currently being undertaken at MDAH, the once ample laboratory and office space has become cramped and overcrowded. Long-range efforts to remedy this situation have been taken, but in the meantime, other arrangements had to be made so that ongoing research will not be interrupted.

To this end, a number of temporary facilities have been obtained for use by the hospital. The entire computer center, most of the biology department (including the sections of genetics, experimental cytology, immunology, molecular biology, and radiation biology), and the entire research clinical pathology section (including hematology/immunology and experimental pathology) have moved to the Hermann Building, adjacent to the Medical Center.

The space freed by the removal of these departments is being used to quarter the section of nuclear medicine, which had been in another building some distance from the hospital, for additional laboratory and office space for those departments and sections remaining in the main building, and for the pending activation of the department of experimental therapeutics (pharmacology and chemotherapy).

However, even more space will be needed before the permanent additions can be completed. Therefore, two temporary buildings are being erected just south of the present hospital site by Epco Construction, Inc. The metal buildings will contain 21,000 square feet and should be completed by midsummer. (See picture below.)

Offices to be housed in the temporary buildings include the nurses’ classroom, the print shop, the distribution center, the physical plant office, the voucher section of the business office, housing for the experimental animals, and the whole organ section of the pathology department, plus an area for new research projects.
Research Award to Radiotherapist

Dr. Herman D. Suit, MDAH associate radiologist and chief of the section of experimental radiotherapy, has been awarded a Research Career Development Award by the National Cancer Institute of the U. S. Public Health Service.

These research awards are based on nationwide competition and are made to scientists who achieve the highest standards of excellence and potential future development in research.

The Research Career Development Awards finance positions for young scientists who intend to pursue careers in independent research and teaching. The awards may be made for five years, and, at the end of that time, are subject for renewal for a period not to exceed ten years.

Recipients of the Research Career Development Awards are eligible for and may apply at any appropriate time for a Research Career Award. These latter awards finance positions for experienced investigators who are continuing to develop their careers.

Dr. Suit has been a radiotherapist at MDAH since 1959. Before coming here, he served as staff radiotherapist at the Radiation Branch of the National Cancer Institute at Bethesda, Maryland.

He received his B.A. degree from the University of Houston in 1948, his M.D. degree from Baylor University College of Medicine in 1952, and his D.Phil. degree from Oxford University in 1956.

Dr. Suit holds memberships in the American Association for Cancer Research, The American Club of Therapeutic Radiologists, the American College of Radiology, the American Medical Association, Phi Kappa Phi, and Alpha Omega Alpha.

Dr. Suit’s current research is directed toward these basic problems: quantifying the relationship between radiation dose and cell lethal response; determining the number of surviving cells in a tumor required to produce a recurrence after therapy; demonstrating the quantitative significance of an immunological response by the host against a tumor carrying a weak but demonstrable tumor cell specific agent; and studying the “oxygen effect factor” as a function of tumor volume.

Also, for several years, Dr. Suit, in co-operation with G. H. Fletcher, H. G. Taylor, and E. C. White of MDAH, has been conducting research on the response of human tissue to irradiation given under conditions of tissue anoxia or severe hypoxia.

This study was undertaken to investigate the proposal that in tumors of clinical size there are foci of viable cells which are anoxic and, hence, relatively radioresistant. Accordingly, if the oxygen tension differential between these tumor cells and the cells of the normal tissue surrounding the tumor were erased, better radiotherapeutic results should be obtained. This could be achieved by well oxygenating 100% of the tumor cells, or by making all the cells of normal tissue in the field of irradiation anoxic.

To test this theory, all cells in the tumor and tumor bed were made anoxic by tourniquet application at the time of irradiation. Types of tumors used were bone and soft tissue sarcomas of distal extremities, because of ease of applying a high-pressure tourniquet to these regions. These tumors have been treated to dose levels of 12,000 rads given over a period of 36 days and 14,000 rads given over 43 days. The purpose of these studies is to determine the amount of irradiation required for local control of tumor and the extent of damage to normal tissue. Regression of tumor mass had not been considered a useful indicator of the probability of local control.

This project is continuing, and, to date, 25 patients have completed the planned course of treatment as outlined in the study program.

Other MDAH Award Recipients

Other MDAH staff members who hold Research Career Development Awards include Dr. Daniel E. Bergsagel, associate internist in the section of hematology, department of medicine, and Dr. Joseph G. Sinkovics, assistant internist in the department of medicine.

Dr. W. W. Sutow, MDAH associate pediatrician in the department of medicine, holds a Research Career Award.

These investigators received their awards in 1963, and, since that time, have been engaged in research specific to their specialty areas.

Biomathematics And Computer Science Symposium

The second annual symposium on Biomathematics and Computer Science in the Life Sciences was held on May 13, 14, and 15, at the Shamrock Hilton Hotel in Houston.

The symposium, attended by over 300 scientists from throughout the nation, was sponsored by The University of Texas Graduate School of Biomedical Sciences at Houston. Chairman for the event was Dr. Clifton F. Mountain, MDAH associate general surgeon (thoracic).

An impressive program was conducted this year in keeping with the purpose of the symposium—i.e., to provide for the interdisciplinary exchange of theories, experiences, and methods in this relatively new field of science. The program format was so designed as to encourage lively discussion from the floor. Over 70 investigators participated in the presentation of the results of their most recent studies.

Subject areas for the symposium, illustrating the variety of types of information presented, included: mathematical models and simulations of biological systems; bioelectronics and computer technology; mathematical biology and theoretical approaches; information and learning theory; and educational requirements in biomathematics and bio-engineering.

Other subject areas were: experimental designs in biological research and medical surveys; computer system approaches and real-time applications in biomedical environments; and the storage and retrieval of biomedical information.

The second symposium proceedings will be published as a monograph by Charles C Thomas, Publishers.

The first annual symposium on Biomathematics and Computer Science was held in May, 1963.

Awards include Dr. Daniel E. Bergsagel, associate internist in the section of hematology, department of medicine, and Dr. Joseph G. Sinkovics, assistant internist in the department of medicine.

Dr. W. W. Sutow, MDAH associate pediatrician in the department of medicine, holds a Research Career Award.

These investigators received their awards in 1963, and, since that time, have been engaged in research specific to their specialty areas.
New Teaching Aid

"Meeting the Nursing Needs of the Patient With Total Laryngectomy," a teaching aid, has been prepared by Miss Renilda Hilkemeyer, MDAH director of nursing, and is now ready for circulation.

Miss Hilkemeyer first presented the material at the 1962 clinical session of the American Nurses' Association biennial meeting in Detroit. That same year, it was published by the American Nurses' Association in a monograph entitled Technical Innovations in Health Care: Nursing Implications.

Miss Hilkemeyer adapted the paper as a teaching aid to enable more people to learn to care for the patient who has had a total laryngectomy.

The teaching material consists of 41 colored illustrations, available either as 2 x 2 mounted slides or as a single frame, 35 mm filmstrip; a magnetic tape recording (3 ¾ ips); and a booklet containing the script, which may be used as a guide for the projectionist or for use in presenting the lecture without the tape recording.

Funds which made possible the preparation of this teaching aid were provided by a grant from the American Cancer Society.

The slide set or filmstrip plus the tape recording and two copies of the manuscript booklet may be obtained for loan or purchase. When ordering, please specify which version—slide set or filmstrip—is desired.

Requests for loan material should be made three weeks in advance of desired showing date, and an alternate date given whenever possible. A service charge of $1.50 must accompany loan requests, and the borrower assumes responsibility for return of the material postage paid.

Send orders to: Medical Communications Department The University of Texas M. D. Anderson Hospital and Tumor Institute Texas Medical Center Houston 25, Texas

Staff Publications


Derrick Named President-Elect

Dr. William S. Derrick, MDAH anesthesiologist and chief of the section of anesthesiology, department of surgery, was named President-Elect of The Southern Society of Anesthesiologists at the annual meeting held April 20 to 25 in Baltimore, Maryland.

Some of the subjects in which Dr. Derrick has conducted research since he has been at MDAH include the following: chemical rhizotomy (i.e., subarachnoid alcohol block) for the relief of intractable pain secondary to cancer; the use of radio-chromium tagged red blood cells to determine the circulating blood volume in human beings during surgical procedures under anesthesia; the use of "popcorn" anion-exchange resins for carbon dioxide absorption during anesthesia; and the use of biomedical instrumentation for monitoring the blood pressure, pulse rate, respiratory rate, and temperature of patients either under anesthesia or in recovery or critical conditions.

Dr. Derrick received his A.B. and M.D. degrees from George Washington University in Washington, D. C. He served his internship at Allegheny General Hospital in Pittsburgh, Pennsylvania, and was a surgical fellow at the Cleveland Clinic Foundation in Ohio.

Some of Dr. Derrick's previous positions include: chief of the medical section in the operations service of the surgeon general's office, 1945-1946; medical officer in anesthesiology at Walter Reed General Hospital, 1946; fellow in anesthesiology at George Washington University Hospital, 1947-1948; chief anesthesiologist at Peter Bent Brigham Hospital in Boston, 1948-1954; instructor in anesthesiology at Harvard Medical School, 1948-1954; and associate in anesthesiology at Harvard Medical School, 1951-1954.