EVENTS

12 March, 1948

YALE JOURNAL OF BIOLOGY AND MEDICINE

At a meeting of the Student Board of Editors the records of the students competing for places on the editorial board were considered and by vote of the Student Board the following members of the Class of 1951 were elected:

Wilbur Palmer McNulty, Jr. (B.S. Yale University 1947), Fort Wayne, Indiana.

William Francis Stephenson (University of Oklahoma 1941-43; 1946-47), Pawhuska, Oklahoma.

5 March, 1948

NU SIGMA NU LECTURE

THE PROBLEM OF ADVANCED PELVIC CANCER

ALEXANDER BRUNSCHWIG

Radical surgery is justified in amelioration of advanced sarcoma in patients in whom Roentgen-ray therapy has failed to halt the growth of the malignant tumors. A number of operative cases, chosen on the basis of physiological and anatomical interest, were described by the speaker. In several cases of advanced laryngeal carcinoma, radical removal of the larynx and superior portion of the trachea was accomplished. The loss of naso-pharyngeal areas in the respiratory pathways seemed to have no ill effect on subsequent respiration. Inspiration was effected through a trachial opening in the supra-sternal notch area.

Large scale removals of stomach, spleen, duodenum, and pancreas have been successfully performed in cases of cancer in these sites. It is found that when the external pancreatic secretions are lost, either through occlusion, or removal of the pancreatic ducts and head of the pancreas, fatty stools are a result in the postoperative patient. Insulin may be produced in adequate amounts by a greatly reduced pancreas volume. It is thought that Langerhans islets in the remaining portion of pancreas become more proficient in the production of insulin when the normal pancreas is destroyed slowly as in a malignant tumor in that organ.

Palliative measures for sarcoma of the cervix of the uterus have been performed by surgical removal of virtually all pelvic contents: bladder, vagina, uterus, anus, and pelvic colon. Colostomy is performed in these operations with the ureters attached to the descending colon.

W. F. S.
ATYPICAL GROWTH RESEARCH UNIT SEMINAR
STUDIES ON GASTRO-INTESTINAL CANCER IN MICE

HAROLD L. STEWART

Dr. Stewart showed slides of the tumors of the gastro-intestinal tract of mice. These tumors were induced by subcutaneous injection and oral ingestion of the carcinogens, methylcholanthrene and 1,2,5,6-benzanthracene. Stable oral emulsions of methylcholanthrene will produce in the forestomach many neoplastic changes, of which squamous cell carcinoma is the most common and striking. Adenocarcinoma of the jejunum and ileum was also observed as a result of oral carcinogen ingestion, but no tumors of the glandular stomach or of the duodenum were ever noted. However, subcutaneous injection of methylcholanthrene, using horse serum as a vehicle, produced examples of adenocarcinoma of the glandular stomach. Therefore, it is now possible to study in experimental mice most of the common gastro-intestinal tumors found in man.

26 March, 1948

ALPHA KAPPA KAPPA LECTURE
THE MAINTENANCE OF WATER AND IRON BALANCE

HOMER SMITH

An extensive recapitulation of the history of renal function, from the concepts of Cushney to those of Marshall, was presented. Dr. Smith discussed the probable existence in the hypothalamus of osmoreceptors (neurons sensitive to changes in the osmotic pressure of plasma, which send impulses to the neurohypophysis to control the secretion of ADH (antidiuretic hormone). The reabsorption of water by the tubules of the kidney can be divided into two stages: (1) obligatory, in the proximal tubule and loop of Henle where about 87 per cent of the water is resorbed passively in conjunction with actively absorbed electrolytes, and (2) facultative, in the distal tubule under the influence of ADH where about 13 per cent of the resorbable water is returned to the circulation. Dr. Smith then discussed how, with different fluid and electrolyte ingestion, this mechanism works to control the water and iron balance of the body.

24 March, 1948

YALE MEDICAL SOCIETY
FACTS AND THEORIES OF NERVE PHYSIOLOGY

ALEXANDER VON MURALT

A technique for isolation of single nerve fibers of up to 15 internodal lengths has afforded new insight into the finer structure of living nerve fibers and the mechanism of impulse transmission. A nodal structure, similar in appearance to a membrane, was seen transversely placed at the nodes of Ranvier,
but its significance is unknown. The nodes were found to function in a stepwise manner as relay stations for transmission. Action substances released from the fiber trunk were determined by immersion of the single fiber in liquid air at the moment of excitation. By chemical analysis of the pulverized frozen fiber, acetylcholine and a thiamin compound were found to be liberated along its length.

A neuroregenerative factor, NR, derived from brain extract was found to hasten neurofibril regeneration in the rabbit cornea, following circular incision at the periphery.

14 April, 1948

YALE MEDICAL SOCIETY

THE RELATION OF SERUM BICARBONATE TO MUSCLE COMPOSITION WHEN RENAL ADJUSTMENT IS OBTAINED

D. C. DARROW, J. I. IANNUNCI, F. COVILLE, AND R. SCHWARTZ

From experiments on rats, it has been proved that when there is high serum bicarbonate, there are relatively high amounts of intracellular sodium and low intracellular potassium. Conversely, when in experimentally produced low serum bicarbonate, there is relatively high intracellular potassium and low intracellular sodium in the rat muscle tissue tested. Thus, in infant diarrhea, it is important to give potassium as well as sodium chloride.

W. F. S.

EFFECT OF INTRAVENOUS ADRENALINE ON HEPATIC AND MUSCLE GLYCOGEN IN THE DIABETIC AND NORMAL SUBJECT

SHEILA SHERLOCK

In normal subjects adrenaline results in a rise of blood sugar and lactic acid with a depletion of liver and muscle glycogen. In diabetes, blood lactic acid increases and muscle glycogen depletes normally. In many diabetics, however, adrenaline causes a poor glycemic response. This cannot be related to diminished hepatic glycogen concentration and is tentatively attributed to defective hepatic glycogenolysis.

W. F. S.

EXPLOSIVE DECOMPRESSION

SAMUEL GELFAN

A series of studies on rats and monkeys in a decompression chamber revealed interesting aspects of high altitude physiology. At altitudes higher than 65,000 feet above sea level there was 100 per cent fatality, when the rats were decompressed in air. Wearing oxygen masks, however, survival percentages of 50 per cent could be obtained even as high as 75,000 feet. There was 100 per cent survival at 60,000 feet. The animals were recompressed at the free fall rate of gravity. The changes from sea level to even the highest altitudes could be effected in less than 0.1 second. Bradycardia was a result commonly observed as a consequence of anoxia. In experiments in which the animals were not subjected to anoxia, bradycardia was also observed on recompression to sea level. This was thought to be due to pain responses from middle ear pressure, and was proved by inability to produce recompression bradycardia after the tympanic membranes had been punctured.

W. F. S.
Pathology in Suddenly Decompressed Rats

ROBERT B. LIVINGSTON

Pathological examination of rats dying at altitudes higher than 50,000 feet after explosive decompression showed frequent hemorrhages into the cochlea. The lungs were liver-like in appearance and completely consolidated with blood. The pulmonary veins and left auricles of these rats were noted to have collapsed. In rats which survived for a few days after recompression, it was observed that there was renal damage as well as the pulmonary pathology. No hollow viscera were found to have burst nor were grossly visible air bubbles frequently noted.

W. F. S.

Dr. C. N. H. Long, Dean of the School of Medicine and Sterling Professor of Physiological Chemistry, gave the annual Alpha Omega Alpha lecture at New York University College of Medicine on Tuesday, April 13, 1948. His subject was, "The influence of the adrenal cortex upon metabolism."

Dr. Francis G. Blake has been appointed Chairman of the Committee on Medical Science of the Research and Development Board, National Military Establishment. The appointment was made by Dr. Vannevar Bush. Dr. Joseph F. Sadusk, Jr., formerly Assistant Professor of Medicine, will be the Executive Director of the Committee of which Dr. Blake is Chairman.

The British Embassy has announced that Dr. John F. Fulton, Sterling Professor of Physiology, is to be honored for his contribution to the Allied war effort in the field of science. Dr. Fulton will be made an Honorary Officer of the Civil Division of the Most Excellent Order of the British Empire. His award is to be given in "recognition of the important part he played in the liaison in medical science between the United States and the United Kingdom during the critical days of the war."

On July 1, 1948, Dr. Thomas R. Forbes, Assistant Professor of Anatomy, will succeed Dr. Donald H. Barron, Professor of Physiology, as Assistant Dean of the School of Medicine. Dr. Barron has held the office for three years, and has asked to be relieved of this extra responsibility in order to give more time to teaching and research. Dr. Forbes has been a member of the Department of Anatomy since 1945, when he came to Yale from the Office of Scientific Research and Development in Washington.

Appointment of Dr. Henry Don Hoberman as a Scholar in medical science under the John and Mary R. Markle Foundation has been announced by John M. Russell, executive secretary of the foundation. One of the first sixteen appointments made with Markle Foundation funds in medical schools throughout the nation, Dr. Hoberman's grant for five years' work at Yale is part of the foundation's effort to "relieve the teacher shortage in medical schools and provide more trained investigators in medical research." Dr. Hoberman, a native of Bridgeport, held an Alexander Brown Coxe Memorial Fellowship in 1946-47, is now a Research Assistant, and has been appointed as Assistant Professor in Medicine beginning July 1, 1948. He received a Ph.D. from Columbia University in 1943, and an M.D. from Harvard in 1947.
The close of the present academic year will mark the retirement and appointment as professors emeriti of three distinguished members of the faculty. They are: Dr. Arnold Gesell, Professor of Child Hygiene and Chairman of the University Department of Child Development; Dr. Arthur Henry Morse, Professor of Obstetrics and Gynecology, who has been on leave of absence since Jan. 1, 1948; and Dr. George Milton Smith, Research Associate in the Department of Anatomy.