EVENTS

23 May, 1947

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 1950 were elected:

Lloyd M. Felmly, Jr.
John B. LeRoy
Robert T. McSherry

At the same meeting, the Editor-in-Chief announced that he had selected, as additions to the Faculty Board of Editors, the following:

Dr. Paul Boisvert, Assistant Professor of Pediatrics;
Dr. John R. Brobeck, Assistant Professor of Physiology;
Dr. Averill A. Liebow, Assistant Professor of Pathology;
Dr. Max Taffel, Assistant Professor of Surgery.

ABSTRACTS

The following abstracts and title references represent material published from the Yale University School of Medicine during the fourth quarter of 1946.

Barron, D. H.: Observations on the early differentiation of the motor neuroblasts in the spinal cord of the chick. J. Comp. Neurol., 1946, 85, 149-69.

Microscopic investigations are reported of the early histogenesis of the motor neuroblasts in a series of silver-impregnated chick embryos ranging in age between 3 and 6 days of incubation. Evidence is presented which supports the view previously presented by the author that neuroblasts possessing growing dendrites have the capacity to induce indifferent cells to differentiate into neuroblasts.

J. B. L.
Brobeck, J. R.: Mechanism of the development of obesity in animals with hypothalamic lesions. Physiol. Rev., 1946, 26, 541-59.

A review on the pathological obesity caused by damage to the hypothalamus. Changes in energy balance and intermediate metabolism due to such damage are presented.

J. B. L.

Brown, Warren T.: The probable rôle of histamine in some emotionally precipitated allergic conditions. Yale J. Biol. & Med., 1946, 19, 63.

Connor, G. J., and S. Harvey: The pyruvic acid method in deep clinical burns. Ann. Surg., 1946, 124, 799-810.

The authors emphasize the great importance of prompt closure of the open wounds created by deep burns and point out the main obstacle to this procedure, namely, the presence of slough. The use of a pyruvic acid-cornstarch paste for early removal of the slough without damage to healthy tissue is very clearly explained. This is followed by reports of four cases which illustrate the necessary procedures and excellent results attained with this method as a preliminary to the application of split-thickness skin grafts to the burned areas.

E. F.

Danowski, T. S., J. R. Elkinton, and A. W. Winkler: Movements of body water in response to acute blood loss. Am. J. Physiol., 1946, 147, 306-10.

The movement of body water following acute blood loss has been studied in dogs by using the chloride balance to measure changes in extracellular fluid volume. Re-expansion of plasma volume shortly after hemorrhage is accomplished by a transfer of interstitial fluid only and not by movement of water from cells. The extracellular fluid is subsequently replenished from exogenous sources provided that the intake of food and water is adequate.

A. F. G.

Deming, C.: The status of urology and the urologist following two world wars. J. Urol., 1946, 56, 613.

This paper, the president's annual address, deals with the progress of Urology during the past 20 years and the resultant increased recognition in the medical world. The author stresses the wide influence which Urology holds throughout the medical specialties and points out the abundant opportunities for specialists in this field.

E. F.

Dougherty, T. F., and A. White: Pituitary-adrenal cortical control of lymphocyte structure and function as revealed by experimental x-radiation. Endocrinology, 1946, 39, 370-85.

High x-ray dosages produce lymphocyte degeneration, with subsequent increases in gamma globulin and antibodies, without adrenal mediation. Conversely, intact adrenals are necessary for such degeneration when low x-ray dosages are used. Because of these experimental findings the suggestion has been made that x-rays exert both a direct and an indirect effect on lymphocytes.

J. B. L.
Duran-Reynals, F.: Transplantability and presence of virus in spontaneous sarcomas and fibromas of chickens in relation to the age of the tumor-bearing animals. Cancer Research, 1946, 6, 529-34.

Duran-Reynals grouped 14 spontaneous sarcomas according to the age of the chicken bearing the neoplasm. The presence of a causative virus, the transplantability of cells, and other properties of the tumor were studied. One of 4 sarcomas from the 12-18 months group proved to be indefinitely transplantable and showed a causative virus in its filtrates. No sarcoma found in the 23 days to 18 weeks group could be transplanted indefinitely, although there are reasons to presume that 3 of them could have been transplanted. Sarcomas from the 5-10 months group proved to be indefinitely transplantable. Only one fibroma in the 8-30 months group could be carried through 2 passages. Although indefinite transplantability and subsequent presence of free virus were traits of sarcomas histologically classed as malignant, another 7 sarcomas with the same or higher degree of histological malignancy failed to show these features while the fibroma carried through 2 passages was histologically non-malignant. L. W. F.

Duran-Reynals, F.: On the transplantability of lymphoid tumors, embryonal nephromas and carcinomas in chickens. Cancer Research, 1946, 6, 545-52.

An attempt was made to transplant 12 lymphoid tumors, 10 embryonal nephromas, and 2 epithelial tumors. Transplantation of the lymphoid tumors failed entirely. Two epithelial neoplasms could not be transplanted. Of the 10 embryonal nephromas described, one was carried through a passage in one chick where it grew much as a sarcoma. Another was probably transplanted as a fibroma. The sarcomatous growths accompanying a third case were transplanted indefinitely as sarcomas, and a causative virus was demonstrated even in the original growths. The author considers that the transplantable infectious sarcomas might possibly have been metastases of the embryonal nephromas. L. W. F.

Duran-Reynals, F., and E. W. Shrigley: A study of five transplantable chicken sarcomas induced by viruses. Cancer Research, 1946, 6, 535-44.

Duran-Reynals and Shrigley, by a number of passages by inoculation of cells, carried five sarcomas spontaneously developing in chickens through this species. As a result, they may be considered as indefinitely transplantable. Four of them were found in chickens of from 5 to 10 months of age; the fifth, in one 18 months old. All had induced metastases in the original host. A causative virus was demonstrated in each of the tumors, in one case in the original growth itself. In 4 of the lines, hemorrhagic disease developed at the same time that free virus was demonstrated in cell-free preparations. In the fifth, a slow-growing fibrosarcoma, the virus never induced hemorrhagic lesions, although not infrequently metastases were present. Although the tumors were classified as to certain common properties, each had typical features that justified the statement that no two of them were identical. L. W. F.

Forbes, T. R.: The origin of "freemartin." Bull. Hist. Med., 1946, 20, 461-64. The author sheds further light on the origin of the word, "freemartin." A. A. F.
Frame, E. G., and J. A. Russell: The effects of insulin and anterior pituitary extracts on the blood amino nitrogen in eviscerated rats. Endocrinology, 1946, 39, 420-29.

Whereas the administration of whole anterior pituitary extract decreased the blood amino acid content of the normal rat but was without effect in the eviscerated rat, the administration of insulin together with anterior pituitary extract had a greater effect in decreasing the rise in blood amino acid levels in the eviscerated rat than did insulin alone.

J. B. L.

Fruton, J. S.: Enzymic hydrolysis and synthesis of peptide bonds. [in] Currents In Biochemical Research, D. E. Green, Ed., Interscience Publishers, Inc., New York, 1946, pp. 123-35.

An essay type of discussion on the probability of proteolytic enzymes being able to function in a reverse manner by inducing bio-synthesis of proteins. The rationale behind the discussion is based upon the known specificity and capabilities of proteolytic enzymes.

J. B. L.

Fruton, J. S.: On the proteolytic enzymes of animal tissues. J. Biol. Chem., 1946, 166, 721-38.

Peptidases have been found in extracts of skin, lung tissue, and serum which are capable of acting on l-leucylglycylglycine but yet are different from the hitherto recognized leucine aminopeptidases. It has been suggested that lymphocytes carry the serum peptidases as is evidenced by a rise in serum peptidase activity after adrenotropic hormone or adrenal cortical extract administrations which are known to produce lysis of lymphocytes.

J. B. L.

Fruton, J. S., and M. Bergmann: Phenylpyruvyl derivatives of amino acids. J. Biol. Chem., 1946, 166, 449-53.

A method is described for the preparation of phenylpyruvylamino acids from the corresponding acetyldehydro-phenylalanylamino acids. The phenylpyruvylamino acids are hydrolyzed by crystalline pancreatic carboxypeptidase.

J. B. L.

Fulton, J. F.: Peacetime implications of wartime medical discoveries. Am. Scholar, 1946, 15, 506-15.

A review of the accomplishments of medicine gained by the impetus of war. In closing the author presents the opinion that it would be advantageous for the President to establish two new cabinet posts; one for medicine and public health, and the other for coordination of scientific research.

J. B. L.

Geiger, A., H. Anderson, A. Winkler, and H. Kaplan: Cardiovascular catheterization as an aid in diagnosis of abnormal cardiovascular communications. Connecticut Med. J., 1946, 10, 895.

Recent advances in cardiovascular surgery have made it necessary to employ more accurate diagnostic and functional tests in cases of cardiac abnormalities. The authors describe the technic of cardiovascular catheterization very carefully.
and supplement this with five case reports to illustrate the evaluation of tests thus performed. The procedure is asymptomatic and quite innocuous. E. F.

Goldmann, F.: Meeting the family's medical costs. Marriage & family living, 1946, 8, 87-88.

Enactment of the National Health Bill (S. 1606) would go far toward helping families to meet their medical care costs. Nearly everybody needs some medical attention and a substantial number of people need much medical care in the course of a year. Medical care costs to the individual are unpredictable and unbudgetable. Lack of competent physicians, dentists, and other professional personnel and of adequate hospitals and clinics in many parts of the country constitutes another barrier to adequate medical care. Voluntary health insurance can serve selected economic groups, but it cannot be utilized by the large number of families struggling to maintain economic independence.

R. T. M.

Hiscock, I. V.: The integration of teaching content and methods. Proc. Conf. Prev. Med. & Health Econ., School of Pub. Health, Univ. Michigan. Sept. 30—Oct. 4, 1946.

Student interest, faculty recognition of responsibilities, and action by professional associations favor instruction in health economics in medical schools, although opinions on content, method, and terminology vary. Teaching content in the medical school embraces preventive medicine, social factors, community health organization and services, including health economics, with primary emphasis given to the viewpoint and experience of present and of future medical practitioners. The purpose of the medical social service in this teaching process is to have the medical student secure from his case study and discussion the knowledge of the relation of the individual who is sick to his social and psychological setting.

R. T. M.

Hiscock, I. V.: New frontiers in health education. Canad. Pub. Health J., 1946, 37, 452-57.

In the changing order of world affairs, some realignment of services and of educational methods may be required in order to give proper emphasis to major needs. The health administrator and his associates will continue their interest in syphilis and tuberculosis, including mass x-ray for all hospital admissions and selected groups, and devote more attention to heart disease and cancer. Better methods are needed for health instruction concerning these diseases. More and more concern is indicated for nutrition, for maternal and infant health, and for the prevention of home, industrial, and traffic accidents. Field training is an essential element in the graduate university preparation. Consultation and guidance service must be given to various individuals and groups desiring such service for developing and improving their health education activities.

R. T. M.

Hovenanian, M. S., and C. L. Deming: Heterologous transplantation of uroepithelial tumors: Part II. Transplantation of bladder tumors. Yale J. Biol. & Med., 1946, 19, 149.
Lamport, H., and M. G. Schorr: A paper screen signaling missile passage in ballistics. Rev. Scient. Instruments, 1946, 17, 280.

The technical details of the apparatus are described.

Lamport, H., A. Ward, and M. G. Schorr: Appraisal of rapid killing power of high velocity bullets. Military Surg., 1946, 99, 215-19.

The authors attempt to evaluate the killing power of soft and of hollow-pointed 0.220 cal. lead bullets on anesthetized, domestic animals. As a result of the data thus obtained they feel that high velocity bullets, expending most of their energy in wounding organs not immediately necessary to life, would not be sufficiently lethal to man to make them of military significance.

Liebow, A. A., P. D. MacLean, J. H. Bumstead, and L. S. Welt: Tropical ulcers and cutaneous diphtheria. Arch. Int. Med., 1946, 78, 255-95.

Tropical ulcers of the deep, punched-out type occurring in soldiers under combat conditions in the South and Central Pacific areas often contain toxigenic C. diphtheriae, particularly when cultured within six weeks of onset. A simple but careful technic is necessary to cultivate the organisms. Blood agar plates of slightly alkaline reaction, prepared so as to avoid hemolysis and streaked in a manner to assure well-isolated colonies, are most satisfactory for obtaining rapid growth and easily recognizable cultures. Since neuritis is an occasional complication of cutaneous diphtheria, the most probable cause of neuritis among troops evacuated from tropical regions should be considered to be diphtheria. The treatment of choice is penicillin applied locally. Diphtheria of the skin can result in auto-infection of the nasopharynx in persons with positive Schick reactions. The most common method of spread of cutaneous diphtheria is from skin to skin, since the natives of the tropics afford a large cutaneous reservoir of diphtheria.

MacLean, P. D., A. A. Liebow, and A. A. Rosenberg: A hemolytic corynebacterium resembling Corynebacterium ovis and Corynebacterium pyogenes in man. J. Infect. Dis., 1946, 79, 69-90.

A new corynebacterium is described and given the name Corynebacterium hemolyticum. This organism was frequently cultured from nasopharyngeal and cutaneous infections in soldiers evacuated from tropical islands of the Pacific, and from natives of the New Hebrides and Marianas. This organism bears many similarities to Corynebacterium pyogenes and Corynebacterium ovis. In its morphology and in its capacity to produce supplicative lesions in the skin of the rabbit and guinea-pig, which are not prevented by diphtheria antitoxin, it also resembles certain other hemolytic corynebacteria derived by others from nasopharyngeal infections in man. It may readily be confused on Loeffler's slants with Corynebacterium diphtheriae and on 24-hour blood agar plates with the beta-hemolytic streptococcus. Its colonial characteristics on blood agar plates at from 48 to 72 hours, however, readily serve to distinguish it from these organisms. Its pathogenicity for man is indicated by its capacity for producing lesions when inoculated into the skin. Its low invasiveness, however, is inferred by the absence of complications after intracutaneous injections in man and by
the failure of the development of significant symptoms when sprayed on the normal throat. It readily becomes parasitic in the nasopharynx. In conjunction with another infectious agent or with a lowering of resistance of the host, however, it is possible that *C. hemolyticum* may become an "opportunist" pathogen for man. This is supported by the evidence of clinical cases in which *C. hemolyticum* was the dominant organism during the course of an acute respiratory illness, was unassociated with a known pathogen, and disappeared with subsidence of the disease.

A. A. F.

Peters, J. P.: Nitrogen metabolism in acute and chronic disease. Ann. New York Acad. Sci., 1946, 47, 327-44.

A study has been made of the destruction of protein which is encountered in patients after acute hemorrhage, operations, injuries, and many other conditions. It was found that post-operatively the plasma amino acid nitrogen, serum albumin, and serum lipids are decreased while urine nitrogen is increased. The degree of change is correlated with the previous condition of the patient and with the severity of the operation. This suggests a sudden and profound transformation of metabolism, which appears to be an impairment in the synthesis of body protein with a tendency for amino acids to be excreted in the urine as urea and ammonia. This catabolic phenomenon, which is self-terminative, is not changed by dietary measures, but the anabolic phase should be anticipated by proper feeding. Protein hydrolysates intravenously are indicated only when the patient is unable to take oral feedings, and every effort should be made to have the patient eat.

A. F. G.

Redlich, F. C.: Value of electroencephalography in differential diagnosis of epilepsy and fainting. Dis. Nerv. System, 1946, 7, 2-7.

Electroencephalography as a confirmatory and determinate diagnostic method was evaluated in a series of 215 patients at an Army neurology center. It was confirmatory in 61.2 per cent of the proven clinical cases of epilepsy. In cases where a differential diagnosis of fainting and/or epilepsy was made, it helped to determine the diagnosis of epilepsy in 19.6 per cent of this group.

With a flexible and undogmatic interpretation of this laboratory method, allowing clinical judgment to supersede when necessary, it is believed that this is a definite diagnostic aid in studying such cases.

A. H. B.

Redlich, F. C., B. E. Moore, and I. Kimbell, Jr.: Lumbar puncture reactions: Relative importance of physiological and psychological factors. Psychosom. Med., 1946, 8, 383-98.

A series of 100 hospitalized psychiatric patients were subjected to routine lumbar puncture. Needles of 16 and 22 gauge were used and all extrinsic and intrinsic factors were carefully evaluated and controlled. Fifty-four per cent of the total showed lumbar puncture symptoms, and a statistically significant increase was seen with the larger needle.

Intrinsic psychic factors had no significant effect on the results, but knowledge of ill-effects in others seemed to enhance the incidence of sequellae.
The conclusion was reached that drainage is the most significant factor in producing symptoms, outweighing by far all other contributing factors.

A. H. B.

Rosahn, P. D.: Studies in syphilis. VII. The end results of untreated syphilis. Ven. Dis. Inform., 1946, 27, 293-301.
Of 380 syphilitic patients who were examined post mortem at New Haven Hospital in the period 1917-41, 52.1 per cent never received treatment. Of these untreated patients 38.9 per cent showed anatomic lesions of syphilis; 61.1 per cent of the entire group showed no anatomic lesions; only 23.2 per cent of the entire group died primarily as the result of syphilis. During the last hospital stay 40.4 per cent of the patients showed positive serology, while 17.7 per cent were negative.

A. A. F.

Thoms, Herbert: The pelvic survey. Yale J. Biol. & Med., 1946, 19, 171.

Vaughan, V. C.: Kernicterus in erythroblastosis fetalis. J. Pediat., 1946, 4, 462-73.
In a series of 72 cases of erythroblastosis fetalis there were 25 deaths and 4 patients with mental retardation. An unfavorable outcome was associated with clinical or pathologic signs of kernicterus in 20 cases. Clinical signs included drowsiness, spasticity, opisthotonos, signs of motor irritability, respiratory irregularity, pulmonary râles and rhonchi, and bloody discharge from the upper respiratory tract. These signs along with pathologic findings in cases of kernicterus suggest that blood destruction is not the primary determinant of nuclear damage. A discussion is presented of the possible rôle of immaturity, vascular injury, altered antigen-antibody reactivity, and intrapartum transfer of antibody in the pathogenesis of kernicterus.

A. F. G.

Watkins, J. H.: Connecticut's rank among the States with respect to various health factors. Connecticut Med. J., 1946, 10, 823-29.
Thirty-six indices were reviewed relative to population, culture, medical and health facilities, health insurance, sanitation, draft rejections, syphilis among selectees, and mortality rates. The conclusion to be derived from the data presented is that Connecticut is one of the most healthful states in which to live. Her sanitation is good, as are her medical and health facilities. Several factors seem to be capable of improvement. Cancer and other chronic diseases have emerged as conspicuous problems. Hospitalization is still low. The state ranks below the median position in expenditures for health. Her tuberculosis mortality rate can be improved. The position of Connecticut is a dynamic rather than a static one, depending not only on what is done in the state, but on what is done in other states.

R. T. M.

White, A.: Preparation and chemistry of anterior pituitary hormones. Physiol. Rev., 1946, 26, 574-608.
A review on the preparation and chemistry of the six known hormones of the anterior pituitary. An excellent bibliography is offered to the reader. J. B. L.
Winslow, C-E. A.: The voluntary nursing agency. Pub. Health Nursing, 1946, 38, 608-14.

The work of the public health nurse has expanded during the past quarter-century to include intensive developments in the fields of maternal and infant health and the control of tuberculosis and the venereal diseases. Our success in controlling the communicable diseases of infancy and childhood and of early adult life has caused a lengthening of the life-span which greatly increases the relative importance of the diseases of later years. It is such diseases which will demand an increasing proportion of the time of the public health nurse. In all areas of public health nursing, there are three emplases which are of fundamental and increasing importance; those relating to nutrition, to mental hygiene, and to social service. While the primary problem is to plan a modern and efficient public health nursing program, there are three major problems which are of concern to us as citizens; adequate facilities for the institutional care of the convalescent and of the chronic ill, housing, and medical care. Two general principles should govern decisions in the matter of coordination of health service. First, an approach as nearly as possible to the ultimate ideal of a single field nurse for a population of not over 2,000. Second, the guidance of community nursing service by voluntary boards should be preserved.

R. T. M.

Winslow, C-E. A.: The physician—priest or business man. Bull. Med. Library Asso., 1946, 34, 310-19.

In a consideration of the economic factor in the history of medicine, two trends are observed. On the one hand is the concept of the physician as priest or public servant, supported by grateful tributes or by state funds. On the other hand is the concept of the physician as an expert who has services to sell in the open market. The plan of paying for medical care which has been generally prevalent in the United States is based primarily on a fee-for-service. In a complex and changing society, this old formula no longer holds. The only answer is to be found in prepayment of medical costs on an insurance plan, as is proposed in the Wagner-Murray-Dingell Bill. Health insurance, with a capitation form of payment, goes far to promote the sacerdotal rather than the speculative relationship between physician and patient.

R. T. M.