R & W Elects Officers, Considers '60 Plans, Presents Awards

Helen M. Anderson, Assistant Administrative Officer, NIDR, was elected President of the NIH Recreation and Welfare Association at its annual meeting, December 2, in Wilson Hall. Miss Anderson, who assumes her duties in January, succeeds Dr. John A. Scigliano, who served as R&W president during 1959.

Other officers elected were Dr. Richard H. Williams, NIMH, 1st Vice President; Woodrow W. Steverson, OAM, 2nd Vice President; Clare W. White, OAM, Treasurer; Ernestine Taylor, NIH, Recording Secretary; and Evelyn Trowbridge, NIH, Corresponding Secretary.

Submits Recommendations

President Scigliano's annual report for 1959 presented recommendations for the 1960 R&W Board and Council, based on findings of some of the 1959 ad hoc committees. These recommendations included revision of the by-laws, amendments to permit employment of a full-time business manager, and continuation of the committees investigating the possibilities of a scholarship program, an R&W citizenship award, and a recreation building.

The treasurer reported expenditures of $11,591.63 for welfare activities and $7,570.44 for recreational activities. Membership passed the 4000 mark, and there was a total of 6000.

(See R&W ELECTS, Page 2)

NIH Observes Christmas Season

The annual NIH Christmas party on Wednesday, December 23, will feature the NIH Chorus presentation of "The Pool of Bethesda," an anthem written especially for NIH.

Incorporating Bible verses 2, 3, and 4 from the 5th chapter of the Book of St. John, the anthem was composed by Dr. George Thaddeus Jones, associate professor of music at the Catholic University of America. These verses, which describe the healing powers of the Biblical Pool of Bethesda, are also beautifully displayed in an illuminated scroll executed by Enid Jones, associate professor of music at the Catholic University of America. The scroll is on view in the CC lobby.

The Christmas party, to which all NIH employees are invited, will take place from 11:30 a.m. to 12:30 p.m. in the CC auditorium. The chorus will sing again by the chorus on December 21 in an evening choral presentation of "The Pool of Bethesda" was given its initial performance on December 19, when the NIH Chorus entertained patients in the 14th floor assembly hall. The anthem was sung again by the chorus on December 21 in an evening choral presentation of "The Pool of Bethesda" was given its initial performance on December 19, when the NIH Chorus entertained patients in the 14th floor assembly hall. The chorus will lead in the singing of Christmas carols, and Dr. Shannon will extend Christmas greetings. The new anthem will be sung at noon.

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(See CHRISTMAS, Page 2)

Flemming Names Two NHI Officials To DHEW Posts

Two of the top men in NHI, Dr. James Watt, Director, and Robert H. Grant, Executive Officer, have been appointed by DHEW Secretary Arthur S. Flemming to positions in DHEW.

Dr. Watt will fill the newly created post of Special Assistant to the Secretary for Aging. In this capacity he will act as advisor to the Secretary and the Under Secretary, and will be directly responsible for the conduct of the 1961 White House Conference on Aging and for general direction of the Department’s Special Staff on Aging.

Mr. Grant has been made Director of the DHEW Special Staff on Aging and Staff Director of the 1961 White House Conference on Aging.

Mr. Grant will continue in his position as Director of NHI, and will serve in the new assignment on a half-time basis, beginning January 1, 1960, until approximately May 1, 1961. During his absence, Dr. Luther L. Terry, Assistant Director, will be Acting Director of the Institute.

Mr. Grant will occupy his new positions on a full-time basis until May 1961. Until then, Philip Janus, now on the staff of the Executive Officer, OD, will be Acting Executive Officer of NHI. He will be assisted by John B. Reed of the Financial Management Branch, OAM.

In announcing the two appointments, Secretary Flemming said (See OFFICIALS, Page 2)
A Christmas concert in the CC auditorium. Christmas festivities for the CC patients started on December 13, when students from Catholic University presented a Christmas show. Carol service was followed by a gift for patients with no family. Reports Section for the information of employees of the Health Service, U. S. Department of Health, Education, and Welfare. Dr. Robert Cooney, Chief Laboratory of Parasite Chemotherapy, has been elected vice president of the American Society of Tropical Medicine and Hygiene for 1960. President of the Society this year is Dr. William H. Wright, and president-elect is Dr. W. W. Frye. Dr. Wright was former Chief of the Laboratory of Tropical Diseases, NIAID. He retired in June 1958 from the NIH Commissioned Corps, and is now with the National Research Council. Dr. Frye serves as a member of the National Advisory Allergy and Infectious Diseases Council. He is dean of Louisiana State University Medical School and vice-president of the University. Dr. Conner Will Head Dental Study Section. Dr. Mark H. Conner, DBG, has recently been detailed to duty as Executive Secretary of the Dental Study Section. This appointment relieves Dr. Robert T. Hill of double duties as Executive Secretary of both the Dental and Endocrinology Study Sections. Dr. Hill will remain in the Executive Secretary position in the Endocrinology Study Section. Dr. Conner has been a public health research analyst with DBG since March 1959. He served as a special assistant to the Chief of the Research Grants Review Branch. Since 1957 he has been a part-time lecturer in the biology department at American University in Washington, D.C.
Science Section

This two-page section is devoted chiefly to summaries of research findings that have been reported by scientists of the National Institutes of Health. This section is prepared by the Office of Research Information, NIH, and the Information Offices of the Institutes and Divisions.

BASIC RESEARCH IMPORTANT TO ATTACK ON SCHIZOPHRENIA

The problem of etiology in schizophrenia is recognized not as a simple one. The human being—an intricate biological and psycholog- logical unit, interacting in societ- ies with other human beings—is the most complex of systems imaginable.

In the past, the most productive biological scientists have made most progress by working with simple systems—single animal cells, bacteria, viruses, and then with part-processes in higher or- ganisms. The testing of hypo- theses in biological investigation, when they extend to higher animal systems, requires rigorous meth- ology and runs the risk of an oversimplified analogy with simpler biological processes. It is these kinds of difficulties that research investigators working in the bio- logy and biochemistry of mental illness confront today.

Many studies in basic research are highly important to the develop- ing attack on schizophrenia. Such studies include research on the mechanisms of neural organi- zation and function in the central nervous system, and its response to drugs, electrical stimulation, sensory deprivation, and other variables; work on the mechanism of genetic transmission and its derangement; analytic studies of behavior processes in lower or- ganisms; neurophysiological mech- anisms of conditioning; studies of the complexities of successful (normal) socialization and family life, and how destructive tenden- cies are contained therein; and an- alyses of existing socio-cultural institutions in their impact on human development and change.

An example of basic research having long-run implications for schizophrenia is the direct exploration, through implanted electrodes, of brain areas whose stimulation duplicates the rewards and punish- ments usually found in the en- vironment. At the National Institu- te of Mental Health, an implantation technique has been developed which permits simultaneous ex- ploitation of 156 separate points in the living animal brain.

Studies with volunteer human subjects are exploring the effects of sustained and total deprivation of all sensory stimulation from the unrealistic anxieties, perceptual- motor disturbances, and even hallucinations—all characteristics of the behavior of chronically ill patients.

Confirm Suitability of Milk

As Maintenance Medium

The development of a serum-free medium containing skim milk (Baron and Low, Science, 1958) which effectively maintains a wide variety of cell cultures led Division of Biologics Standards scien- tists to a study of viral sensitivity of various cell cultures in this medium.

Comparative titrations of 22 dif- ferent virus strains, performed by Dr. Samuel Baron and co-workers, showed that the infectivity titers of ECHO, Coxsackie, poliomyelitis influenza, herpes, measles, and vac- cinia virus in the presence of skim milk medium were equal to or greater than those obtained when established maintenance medium was used.

Strains of adenovirus maintained in skim milk showed a lower in- fectivity for the cells than in estab- lished maintenance media. Ex- periments to determine whether the skim milk acts directly to repress adenovirus multiplication or whether it lacks the cell-mediated enhancing factor of other media indicate that its inhibitory action was probably an effect on the tis- sue culture cells rather than an antiviral effect. Similar cell- mediated effects have been ob- served by other investigators.

Thus, the overall results of the study confirm the suitability of skim milk as a maintenance me- dium. Full details of the study by Alice Gochenour and Dr. Samuel Baron appeared in a recent issue of Proc. Soc. Experimental Bi- ology and Medicine.

Polyoma Particles Seen
In Nucleus of Cells

In Tissue Culture

Scientists of National Cancer Institute's Laboratory of Pathol- ogy have reported in a recent issue of the Journal of the National Cancer Institute on their electron microscopy studies of the polyoma virus grown in cell cultures of a mouse lymphoma. Spherical particles were found in the nucleus, cytoplasm, and on the surface of the cell in infected cultures.

Newborn mice inoculated with these cultures developed the sa-

Steroid Hormones Block
Key Process in Cell

The role of the steroid hormones in the regulation of cell metabo- lism, although of great biological importance, is still not well un- derstood. Basic research studies by scientists at the National Institute of Arthritis and Metabolic Dis- eases have now shown that the steroids are potent inhibitors of one of the key metabolic reactions taking place within the cell—the oxidation of DPNH, or diphostopho- pyridine nucleotide.

This finding has been reported in the Proceedings of the National Academy of Sciences by Dr. K. Le- mone Yielding, Arthritis and Rheumatism Branch, and Dr. Gor- don M. Tomkins, Laboratory of Biochemistry and Metabolism.

DPNH is involved at a critical point in cell metabolism. In its oxidized form, DPN+ is a co- factor required by many enzymes for the oxidation of food within the cell. During the oxidation, DPNI is reduced to DPNH and is then normally re-oxidized to DPN, so that it may again function as a co-factor.

Another Enzyme System

This subsequent oxidation of DPNI to DPN+, which is accom- plished by another enzyme system in the cell, is the reaction the NIAMD scientists discovered to be inhibited by the steroid hormones.

The steroids that were found to inhibit markedly DPNI oxidation include cortisone, dexamethasone, corticosterone, deoxycorticosterone, testosterone, dihydrotestosterone, progesterone, estradiol and diethyl- stilbestrol. Several other steroids were tested but had no effect on DPNI oxidation (tetrahydrocorti- sone, cholesterol, ergosterol, digi- toxin and dioxin).

The active steroids were appar- ently catalytic, since small amounts inhibited the oxidation of much larger amounts of DPNI. Such a catalytic nature is clearly desirable in substances which are biol- ogically active in low concentra- tions.

The biological significance of the finding of the NIAMD investiga- tors has yet to be fully evaluated. "From the physiological stand- point," Drs. Yielding and Tomkins reported, "it is somewhat disturbing that all the organs tissues tested (muscle, liver, kidney, heart, etc.) seemed equally re- sponsive chemically to such hor- mones as diethylstilbestrol or progesterone. It is, therefore, dif- ficult to explain the varying tissue- specific responses of these organs to different steroids. It may be, however, that perme- ability or other factors impose a greater specificity when intact cells are exposed to the hormones."
BEGINNINGS OF FEDERAL ROLE
IN MEDICAL RESEARCH TRACED

Excerpt from an address by Dr. James A. Shannon at the meeting of the Section on Historical and Cultural Medicine at the New York Academy of Medicine, November 18, 1959.

It is in the post-Civil War scene that the beginnings of a broad national health and medical research role for the Federal Government became of great interest in public health in the States and among physicians and public officials. The first modern State Board of Health was set up in Massachusetts in 1869. The American Public Health Association was organized in 1872.

In 1879 a bill passed the Congress, creating a National Board of Health. I wish to dwell on the establishment of this National Board of Health for a moment because the activities which it undertook constitute the first organized, comprehensive national medical research efforts of the Federal Government.

This Board was set up to deal with a practical public health problem. In 1878 there had been a severe yellow fever epidemic, and it became clear that existing means for dealing with communicable diseases of this nature were inadequate. The Board was composed of seven members appointed by the President, representatives of the Army, Navy, Marine Hospital Service and the Justice Department. Significantly, one of its functions was to “obtain information on all matters of public health.” The original bill also provided authority—deleted before enactment—for grants-in-aide to State Boards of Health.

It is remarkable, among the able men appointed to it was John Shaw Billings. Billings, an Army Medical Officer, was a distinguished intellectual and administrator—a rare combination. He had carried out the study which resulted in the reorganization of the Marine Hospital Service in 1870 and was to figure prominently in the national medical scene for the remainder of the century. Billings became Vice-Chairman of this National Board and its dominant and guiding member.

The Board initiated a research program, largely under the design and direction of Billings, which included the following activities:
1. The dispatch of a yellow fever investigation commission to Cuba.
2. The revision of a standard nomenclature of disease.
3. The development of a vital statistics program in cooperation with the Tenth Census of 1880.
4. The conduct of field sanitary surveys.

BIBLIOGRAPHY

Richards, H. R., Jr., of the NIDR Clinical Investigation Branch in a histopathologic study which showed that aphthous stomatitis does not exhibit the clearly discernible vesicular stage characteristic of the herpetic lesions. In addition, the aphthous stomatitis lesions extend more deeply into the tissues and often persist for longer periods.

Adding further to our knowledge of the pathogenesis and etiology of the herpetic and nonherpetic diseases has been an epidemiological study of a large group of college students in the Philadelphia area. Data from these investigations will complement the earlier clinical-pathological studies.

An aspect of the impact of mental illness upon the family is the effect upon the network of relationships and responsibilities entailed in family living. In a preliminary report of research conducted with families from which either husband or wife was hospitalized for schizophrenia, Dr. John A. Clausen, Chief of the National Institute of Mental Health Laboratory of Sociocultural Environmental Studies, reports that these families frequently undergo a progression of disruptions and interpersonal conflict well in advance of the patient’s hospitalization.

For females, the marital role itself was most often the first to show a deficit, disruption coming through accusations of infidelity, moving out of the marital bed, or a substantial measure of psychological withdrawal. The wife’s duties as housekeeper were next most frequently impaired; housecleaning, cooking, doing the laundry became irregular or didn’t get done. Only in one instance did the care of the children seem to be markedly impaired in the early stages.

By three months prior to hospitalization, half of the 14 female patients studied were performing almost none of their usual household tasks and two others were performing with substantial decrease in effectiveness or at markedly inappropriate times.

Three of the ten male patients had likewise markedly diminished their performance of household tasks. By five months prior to hospitalization, and three others ceased to help at home during the last month. Their functions were, however, critical to maintaining the household. All but two of the male patients in the sample held their jobs and performed more or less adequately in them up to a month or less before they were hospitalized.

Almost all performance of essential life tasks was impaired at the end, though many of the women continued to care for their children and the men to meet the requirements of the job down to the last few days. Indeed, these seem to be the minimal role functions that must in general be sustained if the family is to function at all.

Extreme conflict may have been the pattern of marital interaction for months, but as long as the disturbed wife looked after her children or the disturbed husband managed to hold his job, some personal integration and some family integration was maintained.

The findings were reported at the meetings of the American Sociological Society in Chicago.