Aging Conference Offers Proposals For Wide Action

By Mildred Sargent

Delegates from all 50 of the States and three U. S. Territories concluded their discussions at the recent 4-day White House Conference on Aging with policy statements and recommendations to help the Nation's senior citizens realize their highest potential.

Watt, Grant Praised

Dr. James Watt, Director of the National Heart Institute, who has served during the past year as Special Assistant to the Secretary for Aging, and Robert H. Grant, Executive Officer of NHI, who was Director of the Special Staff on Aging, received high praise for their work from the outgoing DHEW Secretary, Arthur S. Flemming.

Within the next 90 days, an official report of the Conference will be submitted to President Kennedy and HEW Secretary Ribicoff.

It is expected that the Conference recommendations will be widely used as a guide to actions by States, communities, the Federal Government, private organizations, and older people themselves.

Eisenhower Speaks

At the opening session in Constitution Hall, President Eisenhower delivered his last address to a Washington conference. He urged the delegates to consider "every conceivable view" of medical care.

After major discussions of this area, the Conference group concurred recommended: "It is an appropriate and desirable responsibility of the Federal Government to finance health care benefits for the aged through a contributory system of social insurance (OASDI)."

The research sections, among other recommendations, urged

Dr. Kety to Be Head Of Psychiatry Dept. At Johns Hopkins

Dr. Seymour S. Kety, Chief of the Laboratory of Clinical Science, NIH, since 1957, has accepted appointment as Head of the Department of Psychiatry at the Johns Hopkins University School of Medicine and its hospital.

The appointment was announced January 15 by Milton S. Eisenhower, President of Johns Hopkins University, and Dr. Russell A. Nelson, Director of Johns Hopkins Hospital.

Dr. Kety will leave NIH for his new post in the spring.

Widely known for his work in the biology of schizophrenia, Dr. Kety recently published a review of current theories in this area. He has also been a leader in the research field of psychopharmacology.

Upon coming to NIH in 1951, Dr. Kety served as Associate Director in Charge of Research for NINDB and NIMH.

In this position he established, organized, and supervised the combined basic science research program of these two Institutes. Concurrently, he pursued his own investigations.

(See DR. KETTY, Page 2)

Dr. Terry, Assistant Director of NHI, Appointed PHS Surgeon General;
Three Other HEW Posts Filled

In the appointment of Dr. Luther L. Terry, 49, Assistant Director of the National Heart Institute, as Surgeon General of the Public Health Service, President Kennedy chose a veteran PHS career man who has been an NIH staff member for the past 10 years.

Dr. Terry succeeds Dr. Leroy E. Burney who had served in that capacity since August of 1956.

Announcement of Dr. Terry's appointment to the top PHS post was made by the incoming President on January 15, five days prior to his inauguration.

At the same time Mr. Kennedy made known his selections for three other high-level positions within the Department of Health, Education, and Welfare. They were:

Former Rep. James M. Quigley, 42, of Camp Hill, Pa., as Assistant Secretary for Federal and State Matters; Dr. Wilbur Cohen, 47, Professor of Public Welfare Administration at the University of Michigan, as Assistant Secretary for Legislative Matters; and Alanson W. Wilcox, 59, of Washington, D.C., General Counsel of the American Hospital Association, as General Counsel.

Becomes Acting Director

Dr. Terry was named Assistant Director of the Heart Institute in August 1958, and since December of 1959 had also served as Acting Director during the part-time absence of the Director, Dr. James Watt, designated Special Assistant to the Secretary for Aging, to assist in gerontological matters and in connection with the 1961 White House Conference on Aging.

Dr. Terry first became associated with the Public Health Service in 1942 when he was granted military leave from the University of Texas, where he was Associate Prof.
Dr. John T. Edsall, NIH Guest Lecturer, Discusses Protein Molecule Structure

Dr. John T. Edsall, Professor of Biological Chemistry at Harvard University and Editor of the Journal of Biological Chemistry, was the guest lecturer here on January 25, in the NIH Lecture Series.

A leading scientist in the field of physical chemistry of amino acids, Dr. Edsall spoke on "Inquiries Concerning the Fine Structure of Protein Molecules."

The discussion, concerning the status of proteins in the hierarchy of chemical molecules and biologically functional units, covered a limited number of well-defined proteins with reference to molecular framework, conformational patterns and related structural factors and influences.

Dr. Edsall considered the question of whether amino acid residue sequences in peptide chains may be the decisive factor in determining favored three-dimensional configuration of protein molecules.

A graduate of Harvard University, Dr. Edsall received his M.D. degree from Harvard Medical School in 1928. He was awarded Guggenheim Fellowships in 1940 and 1942, and has been Visiting Fulbright Lecturer at Cambridge, England, and Visiting Professor at the College de France, in Paris.

Dr. Edsall is a member or Fellow of numerous scientific societies and former Chairman of the Board of the Federation of American Societies for Experimental Biology. He has served on the editorial board of the Journal of the American Chemical Society since 1948 and has been a co-editor of Advances in Protein Chemistry since 1944.

The NIH Lectures were established in 1953 to recognize outstanding scientific accomplishments and to contribute to the vital interchange of scientific information.

Patients, Staff, Guests to Participate in CC's Bi-Weekly Reading Night

A bi-weekly Reading Night for CC staff, patients, and visitors was inaugurated last week by the CC Patients' Library and members of the USPHS Officers' Wives Club. At the first session, on January 25, Dr. Leroy Aldridge, a geophysicist with the Coast and Geodetic Survey, discussed "The Wonderful World of Books."

Reading Nights will be held on alternate Wednesdays in the 14th floor assembly hall of the CC from 7:30 p.m. throughout the winter and spring. The next session is scheduled for February 8.

Organized in response to widespread interest, the discussions will cover books, reading, authors, and libraries. Planned topics include "What Does a Book Offer?" "Our Reading Heritage," "What Good Are Poems?" and "Biographies Bring New Companions."

The audience is encouraged to ask questions, exchange views with the speakers, and participate in general discussions.

Future speakers will include members of the NIH staff and the Bethesda community.

The committee from the USPHS Officers' Wives Club assisting the library staff includes Mrs. William Jenkins, chairman; Mrs. G. Halsey Hunt, Mrs. Frank French, and Mrs. Wilton Fisher.

Dr. Kety previously served as Professor of Clinical Psychology and as Assistant Professor of Pharmacology at the University of Pennsylvania Graduate School of Medicine.

Born in Philadelphia, he received his M.D. degree from the University of Pennsylvania in 1940. In 1942 he received a National Research Council Fellowship at Harvard University.

The author of over 100 scientific papers, Dr. Kety is also the recipient of many honors. Among them are the Distinguished Service Award of DH/EW, the Theobald Smith Award, and the Max Weintraub Award.

He is editor-in-chief of the Journal of Psychiatric Research and Associate Editor of Experimental Biology, and serves on numerous scientific boards, councils, and committees.

Dr. Kety was one of the first NIH scientists chosen unanimously by the Scientific Directors of the Institutes to deliver an NIH lecture in 1960.

In his new post, Dr. Kety will succeed Dr. John C. Whitehorn, who retired in June 1960.

Published bi-weekly at Bethesda, Md., by the NIH Information Section, Office of Research Information, for the information of employees of the National Institutes of Health, principal research center of the Public Health Service, U.S. Department of Health, Education, and Welfare.

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The Employee Development Section will offer courses in Short-Hand and Business English, beginning February 20.

In addition to the General Operator, the grades of Water Tender, Engineer, Boiler Fireman, and Water Supply and Testing Options are opened. Applicants must pass a qualifying exam.

Vacancies must be filled by employees of the NIH in or near their Institutes or Divisions in order to be considered for enrollment.

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NHI Studies Clarify Role of ADH In Renal Concentrating Mechanism

Studies by Dr. John R. Jänike, of the National Heart Institute Laboratory of Kidney and Electrolyte Metabolism, have provided evidence to confirm the previously suspected role of antidiuretic hormone in the renal concentration mechanism. His data indicate that this hormone contributes to the production of a concentrated urine by increasing the permeability of the kidney collecting ducts to water and urea. His findings have been accepted for publication in the Journal of Clinical Investigation.

One of the most striking and important features of the mammalian kidney is its ability to put out urine considerably more concentrated than blood plasma when fluid intake is low, and considerably more dilute than plasma when fluid intake is high. By means the kidney is able to maintain fluid balance so that the organism neither becomes waterlogged nor dehydrated even though fluid intake might fluctuate widely. The hormone which regulates this mechanism is antidiuretic hormone (ADH).

Pituitary Stimulated

When fluid loss exceeds fluid intake, the blood tends to become more concentrated, which increases its osmotic pressure. Special receptors in the brain respond to these increases in osmotic pressures by stimulating the pituitary to release ADH. This hormone stimulates water conservation by causing water reabsorption in two adjacent segments of the kidney tubule that in the absence of ADH are impermeable to water: the distal convoluted tubule and the collecting duct, which together make up the latter half of the renal tubule.

Blood entering the kidney must flow through filtration structures (glomeruli) where protein-free plasma is removed for processing in the kidney tubules. As the filtrate flows through the first half of the tubule, substances needed by the body are reabsorbed and the volume of the filtrate is reduced some 80 percent by the removal of water. Water removal is the passive result of the removal of salt, which exerts an osmotic force that pulls the water out behind it.

The reduction in filtrate volume is not accompanied by an increase in filtrate concentration. Instead, there are proportionately more solute than water is removed, the filtrate is actually more dilute than plasma when it enters the distal convoluted tubule.

In the distal convoluted tubule and the adjacent collecting duct ADH, by its presence or absence, determines whether the urine will be concentrated or dilute, and its volume relatively small or large. If ADH is absent, neither segment is permeable to water. But salt removal continues in the distal convoluted tubule, and, since water is not removed in part, the filtrate concentration drops considerably below that of plasma before the filtrate enters the collecting duct. Urine concentration in the collecting duct is dependent on water removal; and since this segment is also impermeable to water without ADH, the dilute filtrate that entered the collecting duct leaves it as a dilute urine.

If ADH is present, water reabsorption continues in the distal convoluted tubule; and the filtrate concentration may rise as high as that of plasma (but never higher) before it enters the collecting duct, where urine concentration occurs.

Dr. Jänike found that ADH also increases the reabsorption of water and urea in the collecting duct. His studies revealed that urea concentrations were consistent higher in the medulla and papilla of dog kidneys removed after giving the animals ADH than in those removed after the animals' secretion of ADH had been blocked.

Water Permeability Increased

Because urea reabsorption is dependent upon water reabsorption, the increased reabsorption of urea in these kidney regions where the collecting ducts are located indicated that ADH had increased the water permeability of the collecting ducts. Ureine concentration is achieved in the collecting duct by the removal of water; thus this action of ADH is an important factor in the urine concentration mechanism.

The reabsorption of water and urea that occurs in the collecting duct is not due primarily to continued reabsorption of salt, but to the high salt concentrations already existing outside the collecting duct. (See ADH ROLE, Page 6.)

Effects of Tranquilizer On Nerve Cells Studied

Dr. H. Weil-Malherbe, National Institute of Mental Health Visiting Scientist, who has been studying the distribution of epinephrine (adrenaline) and norepinephrine in the brain nerve cell, has found that they can be separated into two broad fractions: the first present in the cell sap, the second concentrated in granular matter. According to current concepts, the fraction of the cell sap is biologically active; the other is thought to serve as a reserve supply. The effects of the tranquilizer reserpine and a number of other drugs have been examined alone, and in combination with each other.

Findings reported in the Journal of Neurochemistry indicate that reserpine acts by effecting a redistribution of amines in the two fractions, and suggest a reappraisal of previous theories on the mode of action of this drug. The results further strongly substantiate other recent research by NMH investigators indicating the role of catechol-O-methyl-transferase in metabolizing these biogenic amines formed within the brain.

Safe Method Developed For Plasma Transferral

A safe procedure for separating platelets from red blood cells and plasma, using plastic equipment, has been developed by Dr. Allan Kliman, Division of Biological Standards, and Drs. Emil J. Freireich, Lawrence Gaydos, and Leslie Schroeder, of National Cancer Institute. The work was reported by Dr. Kliman at the January, 1961, Eastern Section meeting of the American Federation for Clinical Research.

The procedure consists of taking whole blood from a donor, immediately separating out the plasma and platelets for transferral to the patient and returning the red cells to the donor.

The return of the red cells makes it possible to withdraw amounts of plasma as large as 1000 ml per week for periods up to six weeks from the same donor without any harmful depletion of protein or blood cells. Since only one donor is involved, the risk of hepatitis is lessened.

Although repeated doses of platelets from the same donor were administered to each of six leukemic children, the platelet response remained satisfactory and the treatment was repeatedly effective in controlling hemorrhage.

The data obtained indicated that the donor platelets did not provoke specific immunity in the patient, and suggests that platelet plasmapheresis may be a practical means of providing therapeutic quantities of hemostatic plasma for thrombocytopenic patients.
Vitamin C Protein Metabolism Role Demonstrated by NIAMD Scientists

Exploration of some of the many biochemical ways in which vitamins can act has disclosed an unusual role for vitamin C (ascorbic acid) under certain experimental conditions. Drs. Bert N. LaDu and Vincent Zannoni of the National Institute of Arthritis and Metabolic Diseases have shown that vitamin C acts as "protective" one of the enzymes involved in the metabolic degradation of tyrosine in the body.

While this protective role is necessary for normal metabolism, it is a much less specific function for vitamin C than had been supposed, and provides an interesting example of the multiple functions the vitamin may have.

Role Important

Vitamin C has been known to have an important role in maintaining normal tyrosine metabolism, a process which takes place in a series of reactions. Before they will take place, however, several enzymes must be present to promote the reactions and control their speed, and at one time it was thought that vitamin C formed part of one of the enzymes, p-hydroxyphenylpyruvic acid oxidase or PHPO.

This enzyme facilitates the second step in tyrosine metabolism, the conversion of p-hydroxyphenylpyruvic acid to homogentisic acid. Such an action by vitamin C would be similar to that of some of the B vitamins which participate in other metabolic processes as indispensable components of the enzymes involved.

The NIAMD scientists have now found that instead of becoming a part of PHPO, vitamin C protects this enzyme from being inactivated in the presence of excessive amounts of p-hydroxyphenylpyruvic acid.

Effect Demonstrated

They were able to demonstrate this protective effect in guinea pigs that were deficient in vitamin C and had been fed extra amounts of tyrosine in their diet. The extra tyrosine caused large amounts of p-hydroxyphenylpyruvic acid to accumulate in the liver and within two hours 80 percent of the PHPO present in the liver had been inactivated.

On the other hand, animals that were given vitamin C showed no reduction in PHPO activity after tyrosine loading, indicating that the vitamin prevented inactivation. The exact mechanism of this inactivation and protection is still being investigated.

Other Compounds Used

Other compounds chemically unrelated to vitamin C, including the blue dye 2, 6-dichlorophenolindophenol (2,6-DCPP), ox. and red., hydroquinone, and dihydroxymaleic acid, were also able to prevent inhibition of the enzyme in ascorbic acid-deficient guinea pigs given large amounts of tyrosine. However, these compounds did not prevent guinea pigs from developing weight loss, hemorrhages and other signs of scurvy (vitamin C deficiency).

Conclusions Cited

"Perhaps future experiments will reveal instances in which ascorbic acid acts as a 'conventional' vitamin in some of the other biochemical processes which are deranged in scurvy. The elucidation of its role in tyrosine metabolism illustrates one of the variety of ways in which this essential carbohydrate partakes in biochemical and physiological reactions," the NIAMD investigators concluded.

The work was reported at the New York Academy of Sciences "Conference on Vitamin C."

### Table: Effect of Feeding Tyrosine on Enzymes in Normal and Scorbutic Guinea Pigs

<table>
<thead>
<tr>
<th>Enzymes</th>
<th>Normal Enzymes</th>
<th>Scorbutic Enzymes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyrosine Transaminase</td>
<td>Untreated (5)</td>
<td>Treated (10)</td>
</tr>
<tr>
<td>PHPO Oxidase</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>HGA Oxidase</td>
<td>127</td>
<td>133</td>
</tr>
<tr>
<td>Liver</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Tyrosine Transaminase</td>
<td>50.3</td>
<td>5.6</td>
</tr>
<tr>
<td>PHPO Oxidase</td>
<td>13.5</td>
<td>26.5</td>
</tr>
<tr>
<td>HGA Oxidase</td>
<td>13.2</td>
<td>5.9</td>
</tr>
<tr>
<td>Liver</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>PHPO Oxidase</td>
<td>7.5</td>
<td>1</td>
</tr>
</tbody>
</table>

### Table: Prevention of p-Hydroxyphenylpyruvic Acid Oxidase Inhibition in Vivo by Various Compounds

<table>
<thead>
<tr>
<th>Compound*</th>
<th>Liver P-EP Oxidase</th>
<th>Plasma Levels</th>
<th>Liver &quot;Ascorbic Acid&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>µM/hr/mg.</td>
<td>L-Tyrosine</td>
<td>P-EP</td>
</tr>
<tr>
<td>None</td>
<td>1.6</td>
<td>50.3</td>
<td>5.6</td>
</tr>
<tr>
<td>L-ascorbic</td>
<td>31.2</td>
<td>13.5</td>
<td>0.4</td>
</tr>
<tr>
<td>D-isoascorbic</td>
<td>31.0</td>
<td>13.2</td>
<td>0.1</td>
</tr>
<tr>
<td>D-glucosorbic</td>
<td>9.5</td>
<td>26.5</td>
<td>0.8</td>
</tr>
<tr>
<td>2,6-BPP, ox.</td>
<td>29.0</td>
<td>10.2</td>
<td>0.1</td>
</tr>
<tr>
<td>2,6-BPP, red.</td>
<td>29.5</td>
<td>5.9</td>
<td>0.1</td>
</tr>
</tbody>
</table>

*40 mg. injected I.P. 30 minutes before first tyrosine feeding and 10 mg. again 2 hours later.
Polyoma Virus

Acetycholinergic Production Discussed

Dr. David Nachmansohn, Professor of Biochemistry at the Columbia University Medical School, delivered a National Heart Institute-sponsored lecture entitled "The Chemical Basis of Nerve Activity" on January 12 in the 14th floor auditorium of the Clinical Center. Dr. Nachmansohn and his colleagues have confirmed the experimental evidence that local anesthetics combine specifically with the protein in a water solution. They believe that this is the first conclusive demonstration that local anesthetics destroy their effects.

Recent investigations conducted by Dr. Nachmansohn and his colleagues into the fundamental mechanisms of nerve conduction have confirmed his theories, first proposed in 1940, concerning the vital role of acetylcholine in all biological functions.

The studies show that acetylcholine production progresses along the entire nerve fiber where acetylcholine is formed and secreted. The duration of the impulse is controlled by cholinesterase, which destroys the acetylcholine. The study is reported in a recent issue of the Journal of the National Cancer Institute.

The Syrian Hamsters Used

The Syrian hamster appears to be an especially suitable animal for the study of lung carcinogenesis, because spontaneous lung tumors have not been observed in this species and pulmonary infections are rare. About two years after inoculation, the Syrian hamster appears to be an especially suitable animal for the study of lung carcinogenesis, because spontaneous lung tumors have not been observed in this species and pulmonary infections are rare.

Tumors in Newborn Syrian Hamsters

Spontaneous lung tumors have not been observed in this species and pulmonary infections are rare. About two years after inoculation, the Syrian hamster appears to be an especially suitable animal for the study of lung carcinogenesis, because spontaneous lung tumors have not been observed in this species and pulmonary infections are rare.

Effective treatment of certain tumors of the nasopharynx may require the use of an internal source of radioisotopes. The nasopharynx for this purpose has been reported by scientists of the National Cancer Institute's Radiation Branch and a colleague of the Dental Department of the Clinical Center.

The method consists of forcing dental compound into the nasopharynx to form an impression which is hardened quickly by cooling and duplicated in a mold of acrylic resin plastic. The nasopharynx for this purpose has been reported by scientists of the National Cancer Institute's Radiation Branch and a colleague of the Dental Department of the Clinical Center.

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Sodium Phytate Found To Be Caries Inhibitor

Addition of soluble mineral phosphates to the diets of laboratory animals has consistently demonstrated the cariostatic effect of this group of compounds. Although the exact mode of action is obscure, National Institute of Dental Research scientists have felt that an inhibitory reaction may be occurring locally on the surfaces of teeth in the presence of freely available phosphate ions.

Recent studies with sodium phytate, an organic phosphate, have demonstrated a cariostatic effect of possible systemic origin. Dr. F. J. McClure, Chief, Laboratory of Biochemistry, NIDR, has found that an otherwise cariogenic diet containing 14% sodium phytate, when fed to rats, reduced the incations in these animals by an average of 77%.

Anticariogenic effect was significant when compared with a 25% reduction obtained with sodium phosphosodium and a 72% reduction with diammonium phosphate, both administered at comparable levels in similar diets. The study is reported in a recent issue of "Blood," Drs. John L. Fahey and Dan R. Boggs.

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Further Studies Made On Leukemia L1210

Further results of a continuing study of the interrelationships of host-tumor-drug factors in the L1210 mouse leukemia have been reported by investigators of the National Cancer Institute's Laboratory of Chemical Pharmacology. Their earlier studies had indicated that mice surviving systemic leukemia L1210 following treatment with drugs showed immunity to reinoculation of drug-sensitive and drug-resistant sublines of the leukemia. This finding suggested the possibility of utilizing the immune response to enhance the effectiveness of chemotherapy of mice bearing variant forms of the disease resistant to specific drugs or classes of drugs.

Mice Inoculated

Mice were inoculated on day 0 with a subline L1210Z, which is sensitive to two anticancer drugs, and on day 7 with a subline, M46R, which is resistant to anticancer drugs.

Treatment with 3’, 5’-dichloro- amethopterin (DCM), started on day 7, when the sensitive disease had become systemic, produced a median survival time of approximately 40 days from the day of inoculation of the resistant subline.

On the other hand, the survival time of DCM-treated mice bearing only the resistant subline did not exceed 20 days, even if treatment was started on the day of implantation. Furthermore, if the mice were inoculated with both lines and treatment was started on the same day, they survived no longer than the treated mice bearing only the resistant subline.

Survival Prolonged

The findings show that it is possible to prolong the survival of mice bearing an anticancer-resistant variant of leukemia L1210 and receiving treatment with DCM by prior inoculation with a drug-sensitive subline.

It appears that the presence of systemic sensitive leukemia L1210 elicited in the hosts an immune response, which contributed to the therapeutic effect of DCM against the resistant variant. Further study of the relationship of drugs to immunological inhibition and enhancement of host resistance provides a basis for improved cancer therapy.

Dr. Abraham Goldin, Stewart R. Humphreys, Gerald O. Chapman (now with the Cancer Chemotherapy National Service Center), John M. Venditti, and Dr. Michael A. Chirigos are co-authors of the report, which appears in a recent issue of Cancer Research.

NHI Devises More Precise Clinical Test For Hyperparathyroidism Diagnosis

Scientists of the National Heart Institute Clinical Endocrinology Section have devised a new clinical test for hyperparathyroidism that affords a more precise diagnosis of this disorder than do tests used previously.

The new test involves feeding a diet low in calcium and phosphorus over a period of 13 days and giving aluminum hydroxide orally during the last 10 days of the regimen. The diagnosis of hyperparathyroidism is established if the subject's urinary calcium exceeds 550 mg. per day during the test period.

The diagnostic criteria normally used to establish hyperparathyroidism are excessive serum calcium, excessive urinary calcium, and normally low serum phosphorus.

However, all of these criteria are not met in many cases of hyperparathyroidism; and some of them, notably hypercalcemia, may be due to other causes. Thus, this disorder often presents a ticklish problem of differential diagnosis.

New Test Evaluated

The new test appears to overcome many of these problems. It was evaluated in 10 normal controls, in 18 patients with established hyperparathyroidism, but only four of which met all of the diagnostic criteria above. When put on the test regimen, however, all 18 patients exhibited normally high urinary outputs of calcium—defined as a rise in urinary calcium above 250 mg. per day regardless of values of serum calcium or of serum and urinary phosphorus. In contrast, the urinary calcium of the normal controls never exceeded 230 mg. per day.

RADIUM HOLDER

(Continued from Page 5)

reached the tumor-free area of the uninfected and the nearest portion of the midbrain.

The investigators conclude that the method is advantageous because the mold is easy to make and the accurate outline of the tumor guides the positioning of the radium source.

The report appears in a recent issue of the American Journal of Roentgenology and Radiation Therapy.

Garter Snake Indicated As Possible WEE Host During Winter Months

The method by which the virus of Western Equine Encephalitis maintains itself during the winter months has long puzzled epidemiologists engaged in the study of this disease. Although it is established that birds play a part in its dissemination during the summer, their role as a winter reservoir host or as a means of reintroducing the virus into northern areas each year needs further clarification.

Snakes Tested

The observation by Drs. Leo A. Thomas and Carl M. Eklund of the National Institute of Allergy and Infectious Diseases’ Rocky Mountain Laboratory that Culex tarsalis mosquitoes that feed on hibernating garter snakes, led to speculation on the possibility of a snake reservoir. Preliminary tests demonstrated that mosquitoes engorging along with hibernating garter snakes are capable of picking up the WEE virus from a resulting viremia of high titer and long duration.

The present study further clarifies the problem and indicates garter snakes as one possible overwintering mechanism for the WEE virus. Findings were reported in the Proceedings of the Society for Experimental Biology and Medicine.

ADH ROLE

(Continued from Page 2)

The adrenocortical hormones, especially cortisol and corticosterone, are well known for their ability to conserve water and sodium, chiefly by balancing off the urea still reabsorbed before ADH enters the picture, it might appear that the contribution of this hormone to water conservation is a direct result of the kidney processes a volume of fluid out of to about four times the total body water every 24 hours, relatively small losses quickly add up to staggering total fluid losses, due to inadequate ADH. ADH is responsible for the insatiable thirst and enormous urine output that attend diabetes insipidus.

The new test was further verified by the observation that urinary calcium reverted to normal in five patients tested after surgical correction of their hyperparathyroidism, whereas it became abnormal in controls tested after they had been given parathyroid hormone.

Test More Accurate

The aluminum hydroxide administered as part of the test effectively converts a low phosphorus intake into a very low one by interfering with the absorption of phosphorus from the intestine. It also appears to enhance calcium absorption in hyperparathyroid subjects to a much greater extent than in normal subjects. The adaption of the aluminum hydroxide, though not completely understood, appears to be chiefly responsible for the specificity of the test.

Although the new test was used in combination with the calcium infusion test previously found to be a reliable means of diagnosis, allows diagnosis of hyperparathyroidism with greater accuracy and precision than heretofore possible, and is especially valuable in the difficult-to-diagnose case.

The new test was devised by Drs. Pacita Pronove, Norman H. Bell, and Frederic C. Bartter, of the NHI Laboratory of General Medicine and Experimental Therapeutics. Their earlier studies had indicated that tests affords a more precise diagnosis of this disorder than do tests used previously.

In the experiment, the investigators inoculated 50 wild garter snakes intraperitoneally with virus-infected mouse brain suspension in September and November of 1959. The snakes were then specially constructed and allowed to hibernate under simulated natural conditions.

During March, April, May and June the snakes reappeared and after a short period, virus was detected in their blood in high titer and for periods up to 70 days following emergence.

Although the scientists identified virus in 16 inoculated snakes and complete virus transmission from snakes through mosquito to chick was shown in four. For transmission, uninfected C. tarsalis mosquitoes were fed on the post-hibernating snakes with viremia and held from 9 to 23 days before being allowed to feed on a non-infected 1-day-old chick. In the four cases of demonstrable transmission, virus was isolated from the mosquitoes fed.

Although the data demonstrate a possible overwintering mechanism of WEE virus, Dr. Thomas states that more conclusive evidence will be available if virus is isolated from garter snakes actually collected in the field.
early establishment of a National Institute of Gerontology within the framework of the National Institutes of Health.

Two Congressmen reported that they are sponsoring plans for organizations to deal with the special problems of the aging.


Rep. Fogarty introduced the original bill (H. R. 9822) which as Public Law 85-908 authorized the President to call the Conference, designating the Secretary of HEW to plan and conduct it with the assistance of Federal departments and agencies.

3,200 Attend

The delegates and visitors from 26 foreign countries, totaling 3,200, divided into 20 sections, each with its chairman, technical director, and recorder.

These met in work groups or sections and addressed themselves to their subjects: Population Trends, Income Maintenance, Impact of Inflation on Retired Citizens, Employment Security and Retirement, Health and Medical Care, Rehabilitation, Social Services, Housing, Education, Role and Responsibilities, Employment Security and Training of Professional Personnel, Family Life, Free Time Activities, Religion and Aging, Research in Gerontology (Biological, Medical, and Psychological and Social Science), Local Community Organization, State Organizations, National Voluntary Services and Service Organizations, and Federal Organizations and Programs.

Folsom Endorses Plan

Former Secretary of HEW Marion Folsom endorsed the Social Security plan for medical care, with the proviso that an advisory council representing employers, labor, the insurance industry, hospital administrators, the medical profession, and the general public be appointed to study all aspects of the problem and make recommendations to Congress.

The final policy statements of the Conference groups included a recommendation that “...a Federal coordinating agency in the field of aging be given: a) a statutory basis and more independent leadership, b) adequate funds for coordination and other assigned functions through a ‘line item’ appropriation, c) responsibility for formulation of legislative proposals for submittal to Congress, and d) responsibility for periodic reviews of reports on the various

OFFICIALS MEET AT CONFERENCE

Robert H. Grant, Executive Officer, NHL, and Director of the Special Staff on Aging (second from left), during a Conference luncheon chats with John E. Reino, Chairman, Virginia Commission on Aging (left); U. S. Sen. Harry Flood Byrd (second from right), and H. Burton Aycock, HEW Regional Representative for Aging, Region 3, Charlottesville, Va.

Dr. James Watt, NHL Director and Special Assistant to the Secretary for Aging, confers with Margaret Schweinhaut, Chairman, Governor’s Commission on Aging, Maryland (left), and her twin sister, Marie McGuire, who attended the Conference as a delegate from Texas.—Photos by Jerry Hocht.

Federal programs, Departments and agencies working in behalf of older people, to achieve their effective coordination and operation.”

The Conference Research Sections recommended that DHEW, through PHS and NIH, continue to foster its program of supporting large-scale interdisciplinary research centers in aging.

They pointed out the advantages of simultaneously bringing together the efforts of many disciplines with resulting intellectual cross-fertilization and program stability, the attraction of young investigators to the program, and, as a final product, new information of importance.

The Sections reported that these programs are having “an immense impact on the field of aging with each center serving as a regional resource for community assistance in the health-related aspects of aging.”

Summing up highlights of the Conference, former HEW Secretary Fleming observed, “The Conference demonstrated America at its best.” He expressed deep appreciation for the “quality of participation,” adding, “Medical care is one of the major issues confronting our Nation today. I am convinced that the issue cannot be resolved by relying solely on private efforts. The Federal Government must become a partner.”

A Guard Office Reminder: Check It for Lost Articles

The Guard Office, Bldg. 10, Rm. 1-A-106, usually has a collection of jewelry, keys, gloves, coats, etc. which have been found somewhere on the reservation. Remember to check there when you or your visitors lose things.

CONFERENCE

(Continued from Page 1)

Dr. Haas Retires After 30 Years In Health Service

Dr. Victor H. Haas, who was the first Director of the National Institute of Allergy and Infectious Diseases, retired January 1 from the Public Health Service after 30 years of service. Dr. Haas had been associated with NIH since the early 1930s, his first assignment here dating back to 1934.

In the course of his career he won many accolades for his research in yellow fever and encephalitis investigations in St. Louis, on plague in San Francisco, and in the late 1930s on viruses in Bethesda.

In 1941 Dr. Haas was sent with a group of Public Health Service officers to head the Medical Commission to the Yunnan-Burma Railway in China.

WINS LEGION OF MERIT

In 1942-1943 he was attached to a U. S. Army unit of the China-Burma-India Theater after work on the rail project was made impossible by early reverses during the war. For his service during this period he was awarded the U. S. Army Legion of Merit.

In 1943-1948 Dr. Haas served as Officer-in-Charge of malaria investigation, and in 1948 he became the first Director of NIAID, then named the National Microbiological Institute.

In April of 1957 he left the directorship of the Institute for full-time research in the Laboratory of Infectious Diseases.

In 1960, after a reorganization of the laboratory structure of NIAID resulted in the formation of several new laboratories, one being the Laboratory of Biology of Viruses, to which Dr. Haas remained attached until his retirement.

For the past 13 years Dr. and Mrs. Haas lived in Bethesda. They have now left the area and expect to settle near San Francisco.

Meenehan to Address NIH Camera Club

John Meenehan, well-known Washington lecturer on color photography, will be guest speaker at the next meeting of the NIH Camera Club, to be held in Wilson Hall, February 6, at 8 p.m.

As color photography chairman for the Greater Washington Council of Camera Clubs Inter-club conventions, he will discuss the techniques of preparing potentially prize-winning color slides.
Registration Dates Set For Graduate Courses

Registration for the spring term of the USDA Graduate School will be held here February 6-11 from 11:30 a.m. to 4:30 p.m. daily, in Room 2-B-50, Clinical Center. Catalogues are available from all administrative and personnel offices, the library, and the CC reception desk.

The following changes in the courses given at NIH have been made since the catalogue was issued:

On Monday, Special Pathology and Chemical Quantum Mechanics are omitted. A new course in Ordinary Differential Equation will be taught by Dr. Clifford S. Patlak.

On Tuesday, the course in Microbial Biochemistry has been dropped, and will be given instead on Wednesday night by Dr. William B. Jakoby.

On Wednesday, the instructor for Introduction to Determinants and Matrices has been changed to Dr. Clifford S. Patlak. A new course in Introductory Virology will be taught by Dr. Wallace P. Rowe.

On Thursday, the catalogue was in error: the course in Bacterial Physiology has been dropped, and Bacterial Biochemistry has been added.

On Friday, the course in Medical Nutrition will be taught by Dr. Wallace P. Rowe, and will be given instead on Wednesday night by Dr. William B. Jakoby.

Appointments

(Continued from Page 1)

**DR. TERRY**

*Defects or of heart damage due to disease; Clinical evaluation of new drugs for the treatment of hypertension and congestive heart failure; and Studies on endocrine factors such as adrenal, thyroid, pituitary, and other hormones in cardiovascular disease.*

Of special interest to Dr. Terry were the studies on amines, many of which appear to be intimately involved in the mechanisms by which the body regulates its blood pressure.

**Evidence Is Clear**

It has never been shown that amines per se are villains in essential hypertension; however, it has become abundantly clear that certain drugs which alter amine metabolism also lower blood pressure in hypertensive patients.

The two amines that have been studied most intensively are norepinephrine and serotonin. These amines not only figure prominently in the action of many drugs used against hypertension—norepinephrine in their hypertensive action, serotonin in their sedative and tranquilizing effects—but they also play important roles in the syndromes of two types of secreting tumors: malignant carcinoid and pheochromocytoma. Dr. Terry participated directly in some of the most important NIH studies on these two amines.

**Secretes Norepinephrine**

Phaeochromocytoma is a tumor that secretes large quantities of norepinephrine, which is responsible for the elevated blood pressure accompanying this disease. Studies on this tumor by the same research team, with Dr. L. C. Leeper, helped to clarify the metabolic pathways by which norepinephrine is produced and broken down by the body.

Dr. Terry also collaborated with Drs. Sjoerdsma, Louis Gillespie, and other NIH scientists in clinical studies on the monoamine oxidase inhibitors—a family of drugs showing great promise in the treatment of hypertension.

These drugs inhibit monoamine oxidase, an enzyme which inactivates a number of amines including norepinephrine and serotonin, and lower blood pressure by a mechanism still incompletely understood. Unfortunately, the early MAO inhibitors tested proved too toxic for therapeutic use; however, so great was the promise of this new drug now undergoing trial that scientists did not give up on this family, and a new drug now undergoing trial shows every sign of amply rewarding their patience.

After he became Assistant Director of NIH, Dr. Terry, despite the press of administrative duties, followed closely the clinical studies of the Institute, particularly those of his old Branch and the patients who had been under his care during the course of his research studies.

Terry attended high school there and was valedictorian of the Class of '27.

He received his B.S. degree from Birmingham-Southern College in 1931, and attended the School of Medicine of Tulane University, where he received his M.D. degree in 1935, ranking fourteenth in a class of 120.

Following World War II, Dr. Terry was a member of the Medical Division of Strategic Bombing Survey to Japan. In 1949 he served as a staff member of the Senate Subcommittee Investigating Malmedy Atrocities.

**Directs Training Program**

From 1950 to 1955 he was a member of the Cardiovascular Study Section, NIH, and has been a member of the Medical Board of the Clinical Center since 1955, serving as its chairman from 1953 to 1955.

He was Chairman of the Cardiovascular Research Training Committee of the Heart Institute in 1957, and from 1956 to 1958 was a member of the PHS Committee on Civilian Health Requirements.

Since 1963 he has served as Director of the Research Training Program of the Heart Institute, and since 1957 as a member of the Advisory Committee on Nutrition of the Indian Health Service.

Dr. Terry is married to the former Beryl Janet Reynolds. They have three children: Janet, 17; Luther, L, Jr., 15; and Michael, 14. Their home is at 105 South Van Buren St., Rockville, Md.

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**APPENDIX**

Dr. Sjoerdsma Honored For Metabolic Studies

Dr. Albert Sjoerdsma, Head of the Experimental Therapeutics Branch, NHI, was one of 22 scientists presented gold medallion medical achievement awards by the Golden Slipper Square Club at its "Salute to Medicine" dinner in program in Philadelphia on January 5.

The award winners, all distinguished medical scientists, included Drs. Stanhope Bayne-Jones, Carl V. Moore, Michael E. DeBakey, John H. Gibbon, Jr., Howard A. Rusk, Selman A. Waksman, and Paul D. White.

Dr. Sjoerdsma's award was in recognition of his clinical and experimental studies of the metabolism of vasoactive amines. His work in this field has revealed much on what is known about amine-secreting tumors: malignant carcinoid, pheochromocytoma, and mast cell tumors.