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NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

Dr. R. Masland, NINDB, Leaves to Join Staff Of Columbia University

Dr. Richard L. Masland has resigned as Director of the National Institute of Neurological Diseases and Blindness to join the staff of Columbia University as professor of Neurology and chairman of the Department of Neurology of the University's College of Physicians and Surgeons.



Dr. Masland

He also will be director of the Neurological Service, Neurological Institute, Presbyterian Hospital, New York City.

Dr. Masland had been with NINDB since 1957 when he was appointed assistant director of the Institute. He became Director in 1959.

Among the outstanding contributions of Dr. Masland's administration has been the development of the Collaborative Perinatal Project.

Under his leadership, the Perinatal Project emerged from a pre-test stage to its main phase and more than 55,000 mothers and babies were studied at 14 medical centers.
(See DR. MASLAND, Page 8)

Doctors May Detect Genetic Disorders In Newborns by Using Automated Tests

By Bari Attis

With relatively simple tests, physicians may one day be able to detect a variety of genetic disorders in newborns.

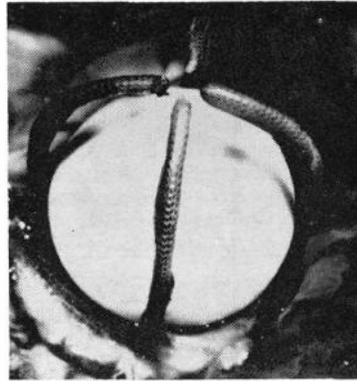
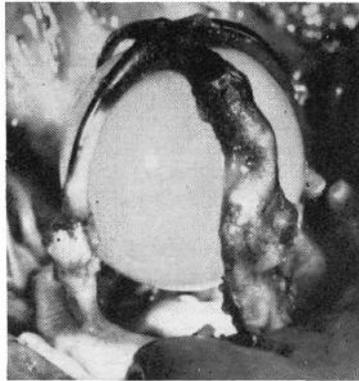
These disorders, and the development of automated testing methods to diagnose them, were discussed at a one-day conference sponsored by the National Institute of Neurological Diseases and Blindness.

Chairman of the conference, held at NIH recently, was Dr. Edgar A. Bering, special assistant for Program Analysis. This was the fourth workshop in 5 years to discuss the topic, "The Development of Screening Tests for Inborn Errors of Metabolism."

Twenty-three researchers from medical institutions throughout the country attended the session. They represented the specialties of neurology, pediatrics, genetics, biochemistry, and bacteriology.

Discussion at the workshop cen-

Fabric-Covered Artificial Heart Valves Protect Against Blood Clot Formation



Viewed side-by-side, these pictures reveal an obvious difference in the covered and uncovered Starr-Edwards ball valve frames. At left, the bare metal frame may generate blood clots after implantation. At right, the fabric-covered heart valve frame shows no sign of thrombus formation.

National Heart Institute surgeons have reported encouraging results of clinical and experimental studies of fabric-covered artificial heart valves. These Dacron covered valves prevent blood clot formation by allowing controlled tissue ingrowth to encapsulate, thus shielding porous valve surfaces from the bloodstream.

The overall clinical success of prosthetic heart valves has been marred by a high incidence of thromboembolic complications—the formation of blood clots that may obstruct the valve or break away and lodge elsewhere to obstruct

blood flow through an artery.

Although most thromboembolic episodes have only transient effects from which patients soon recover, their occurrence and severity are unpredictable, and they have caused severe disability and death, even in some patients who received continuous anticoagulant therapy after valve installation.

More streamlined valve designs and the use of non-wettable materials have not solved this problem.

For these reasons NHI surgeons, Dr. Nina S. Braunwald (now with the University of California at La Jolla) and Dr. Andrew G. Morrow, of the Surgery Branch, worked to encourage the ingrowth of host tissue on all fixed parts of artificial valves, thereby creating a "native" surface more compatible with blood.

Previous experimental findings from this laboratory had indicated that a Dacron fabric covering significantly decreased the incidence of thrombosis.

However, several important questions remained to be answered, such as whether the tissue layers might become so thick as to interfere with valve function, and whether the employment of anti-

(See ARTIFICIAL, Page 7)

LBJ Names Cohen Principal Advisor On Health Policy

On June 15 President Johnson approved a reorganization of Federal health services under which DHEW Secretary Wilbur J. Cohen was named principal advisor to the President on Federal health policy and programs.

Effective July 1, Mr. Cohen will be responsible for coordinating all Federal health programs with a total cost today of \$15.6 billion.

In this capacity, Mr. Cohen will be authorized to establish and head up a new Interdepartmental Health Policy Council to assist in evaluating the Nation's health needs.

Other major features of the plan, also effective July 1, include:

1. Creation of a new Consumer Protection and Environmental Health Service, as a unit of the Public Health Service, to be headed by Charles C. Johnson, currently Assistant Commissioner of Health for Environmental Services in New York City.

This new agency will consist of



Wilbur J. Cohen has figured prominently in all important health, education, and welfare planning in the last three decades under five Presidents.

the Food and Drug Administration, the National Center for Air Pollution Control, the National Center for Radiological Health, the National Center for Urban and Industrial Health, and certain staff units of the Office of the Director, Bureau of Disease Prevention and En-

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the NIH Record

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NEWS from PERSONNEL

INSURANCE CERTIFICATES

Timekeepers are distributing the revised "Certificate of Regular Life Insurance" to employees covered under the Federal Employees Group Life Insurance Program.

This certificate contains information about the expanded coverage provided by Title IV of Public Law 90-206, approved Dec. 16, 1967.

Employees enrolled in the Optional Life Insurance Program will also receive a "Certificate Supplement—Optional Insurance."

It is suggested that employees advise their families or beneficiaries of the information in these certificates so that they will be aware of insurance benefits to which they would be entitled in the event of death.

Personnel covered under these programs who do not receive a copy of the certificates may obtain them from their I/D Personnel Office.

HOUSING NEEDED

Employees who have rooms, apartments, or homes for rent or sale are urged to list them in the housing registry located in the Employee Relations and Recognition Section, Bldg. 31, Rm. B2B-35.

Summer rentals of furnished living quarters are in particular demand at this time as well as unfurnished accommodations for longer periods.

Five 3 x 5 cards should be sent, stating all pertinent information such as: description of property; whether for sale, rent, lease, or sublease; furnished, unfurnished, or air-conditioned; general location in



Howard E. Kettl, NIH assistant executive officer (left) presents a book of memories to James B. Davis, chief, Supply Management Branch, OD-OAM on his 30th anniversary in Government service. Mr. Davis' entire career has been with NIH and began prior to the move to Bethesda in 1938.—Photo by Bob Pumphrey.

relation to NIH; sale or rental price; when available and for how long, and telephone number to contact.

The following signed statement must be shown on the back of each card:

"This property is available on an open occupancy basis without regard to race, color, creed, or national origin."

Procedure Explained

Listings may be sent in at any time and are posted until the end of the month in which they are received. If the housing is rented or sold before that time, call Ext. 64973 to have the listing removed from the registry.

If the property is still available at the end of the month, a new set of cards must be forwarded to ERRS for the following month.

Dr. Chamberlayne Named Honorary Life Member Of Canadian Institute

Dr. Earl C. Chamberlayne, special assistant to the Director of the National Institute of Allergy and Infectious Diseases, has been named an honorary life member of the Canadian Institute of Food Technology.

Dr. Chamberlayne, one of the founders of the organization, was its first president from 1951 to 1952. Formal presentation of the membership award was made at the president's banquet on June 12 during the Institute's annual conference in Banff, Alberta.

The Institute was organized while Dr. Chamberlayne was a public health veterinarian with the Manitoba (Canada) Department of Health and Public Welfare, from 1945 to 1951.

At that time he participated in the research and development of techniques for processing frozen foods.

Before joining NIAID in 1964, Dr. Chamberlayne was a public health consultant to the Pan American Sanitary Bureau.

Federal Salary Increase Effective After July 1

Salary increases for classified Federal employees will become effective the first pay period after July 1, 1968 (July 14 for NIH employees). The increases range from 3 percent to almost 9 percent.

NIH employees will receive the increase in their August 6th paycheck, according to PMB.

The Federal Salary Act of 1967 provided for pay increases in October 1967, July 1968, and July 1969 (See *NIH Record*, January 9, 1968). The increases will partially close the comparability gap between Federal salaries and that of private industry.

Salaries of Federal employees engaged in manual labor, trades,

All NIH Employees Cautioned On Use of Indicia Envelopes

All NIH employees are cautioned that use of envelopes or labels with official indicia for private mail is illegal.

Postage for all mailing indicia is charged to NIH "at the time of issue from stock," according to the Office Services Branch. Placing a postage stamp over the official indicia does not negate the postage already paid.

OSB also reminds employees that indicia envelopes should not be used for inter-office mail or for mail addressed to Government offices in the Washington Metropolitan Area. Regular messenger or run-stop service is provided for this type of mail.



Edith F. Phillips, special assistant in the Office of the Associate Director for Extramural Activities, NCI, was recently given a DHEW Sustained High Quality Performance Award, for the performance of all phases of her duties. Presenting the certificate is Dr. J. Palmer Saunders, associate director.—Photo by Ed Hubbard.

and crafts are unaffected by the increase. Instead, they receive an annual salary adjustment based on local non-Federal wages.

July 1968 General Schedule Annual Salary Rates

Grade	Per annum rates									
	1	2	3	4	5	6	7	8	9	10
GS-1	\$3,889	\$4,019	\$4,149	\$4,279	\$4,408	\$4,538	\$4,668	\$4,798	\$4,928	\$5,057
GS-2	4,231	4,372	4,513	4,655	4,796	4,937	5,078	5,219	5,360	5,501
GS-3	4,609	4,753	4,907	5,060	5,214	5,367	5,521	5,674	5,828	5,981
GS-4	5,145	5,316	5,487	5,658	5,829	6,000	6,171	6,342	6,513	6,684
GS-5	5,732	5,924	6,115	6,307	6,498	6,690	6,881	7,073	7,265	7,456
GS-6	6,321	6,532	6,743	6,955	7,166	7,377	7,588	7,799	8,010	8,221
GS-7	6,981	7,214	7,447	7,680	7,913	8,146	8,379	8,612	8,845	9,078
GS-8	7,699	7,956	8,213	8,470	8,727	8,984	9,241	9,498	9,755	10,012
GS-9	8,462	8,744	9,026	9,308	9,590	9,872	10,154	10,436	10,718	11,000
GS-10	9,297	9,607	9,917	10,227	10,537	10,847	11,157	11,467	11,777	12,087
GS-11	10,203	10,543	10,883	11,223	11,563	11,903	12,243	12,583	12,923	13,263
GS-12	12,174	12,580	12,986	13,392	13,798	14,204	14,610	15,016	15,422	15,828
GS-13	14,409	14,889	15,369	15,849	16,329	16,809	17,289	17,769	18,249	18,729
GS-14	16,946	17,511	18,076	18,641	19,206	19,771	20,336	20,901	21,466	22,031
GS-15	19,780	20,439	21,098	21,757	22,416	23,075	23,734	24,393	25,052	25,711
GS-16	22,835	23,596	24,357	25,118	25,879	26,640	27,401	28,162*	28,923*	
GS-17	26,264	27,139	28,014*	28,889*	29,764*					
GS-18	30,239*									

* The maximum salary permitted under the Federal Salary Act of 1967 is \$28,000. Asterisks next to figures in Grades 16 through 18 denote what the amounts would be based on a straight percentage formula.

CSC to Replace SF 57 July 1 With Simplified Application Procedures

Changes and improvements in Federal administrative procedures are being made every day. For most Federal employees as well as for the general public, few of these changes have an impact or significance equivalent to that which will become effective next Monday, July 1.

On that date, the well known Standard Form 57, "Application for Federal Employment," will be eliminated in favor of what promises to be an enormously improved application procedure.

Study Effects Change

The elimination of the SF 57, which has served as the standard application form for almost all jobs throughout the Federal Government since 1942, results from an intensive study recently conducted by the Civil Service Commission.

According to the findings of this study, much of the information required by the old SF 57 frequently is not needed or used and often represents wasted time and effort for both applicants and selecting officials.

In the interest of greater efficiency and economy and to provide improved service to the public, a new application procedure is being introduced.

An extremely compact 4- by 8-inch card, Standard Form 170, "Application for Federal Employment," will be used for initial screening.

Advantages Noted

This form can be completed in a matter of minutes and provides the prospective employer with sufficient information to decide whether he is interested in further consideration of the applicant.

If so, the applicant will complete a Standard Form 171, "Personal Qualifications Statement," to provide more comprehensive information needed to make the final selection decision.

The SF 171 is the form that selecting officials will receive with certificates of eligible candidates from the Civil Service Commission.

This system will go far toward reducing voluminous and unnecessary application files. In the vast majority of cases, only the 4- by 8-inch card, SF 170, will need to be retained for reference purposes.

Government Code of Ethics

Any person in Government service should:

Give a full day's labor for a day's pay; giving to the performance of his duties his earnest effort and best thought.

OF RICE AND MAN

NIAMD Nutrition Studies Aid Effort to Ease Deteriorating World Food Situation



NIAMD-supported studies at the International Rice Research Institute are searching for adaptable, high-yield, high protein strains of rice to aid people where malnutrition is becoming an increasingly serious problem. These natives shown cultivating a rice paddy with the help of water buffalo assist in the growing of experimental strains.

It's a small, starving world. Jet travel has brought India, with its hungry millions, closer in time to NIH than Indiana used to be.

Just hours away, NIH scientists are working in underdeveloped countries where volunteer patients may receive a new lease on life during nutrition studies, where a baby formula may include watered-down buffalo milk with peanut flour, where an investigator may have to take occasional monsoon floods in his stride.

New Commissioned Corps Officers Report in July

About 250 commissioned officers will report in early July for active duty at NIH.

A special orientation program will be conducted for these officers on July 10 at 1 p.m. in the Clinical Center auditorium.

Most of the professional disciplines of the Commissioned Corps are represented. Some 204 are physicians, who will serve as Research, Clinical, and Staff Associates.

Several Areas Represented

The remainder include engineers, mathematicians, dentists, pharmacists, veterinarians, and others with education and experience in biomedical areas.

The appointments of the physicians, made under the NIH Associate Training Program, will provide opportunities for career development in a variety of medical specialties and basic science disciplines.

Most of the physicians were appointed to the Associate Training Program 2 years ago and have pursued their residency training in their medical specialty elsewhere during the interim.

They were selected by a system of matching the candidates' program-area preferences with nominations made by the Institutes. Most of the country's major universities are represented.

Among them are physicians from



Indian housewives demand wheat familiar in appearance and taste to grind at the village flour mill. Researchers may coat the grain with lysine, a component of good protein.

to this "race against time" effort to check a rapidly deteriorating world food situation comes under the aegis of the National Institute of Arthritis and Metabolic Diseases.

(See NUTRITION, Page 6)

Harvard, Johns Hopkins, Pennsylvania and Georgetown in the east; Duke, Emory, Florida, and Texas in the south; Chicago, Iowa, Kansas, and Nebraska in the mid-west, California, Stanford, UCLA, and Washington in the west.

Generally, appointments are for 2 years, but in certain Institutes may be extended to 3 years.

NIH Director Receives Rosenberger Medal, 4 Honorary Degrees

Dr. James A. Shannon, Director of NIH, received a Doctor of Laws degree from Yale University on June 10.

At the Commencement Day exercises, Dr. Shannon was cited for . . . "the free flowering of health-related studies at all levels, from the most theoretical to the most practical. . . For your high ideals of scholarship and integrity. . ."

Previously, Dr. Shannon received honorary degrees from two other universities and a college, and a medal from the University of Chicago.

Degrees Described

On March 23, the University of California at Berkeley, also gave him a Doctor of Laws degree.

At its 55th Commencement exercises, on May 24, the College of Mount St. Vincent in Riverdale, N.Y., bestowed on Dr. Shannon the honorary degree of Doctor of Human Letters.

The University of Kentucky Medical School honored Dr. Shannon with an honorary Doctor of Science degree on May 13.

At the University of Chicago's Convocation on June 7, Dr. Shannon received the Jesse L. Rosenberger Medal for his achievements in public medicine and medical education.

The Rosenberger Medals, given periodically since 1924, are awarded "in recognition of distinguished achievement in the advancement of learning or for notably great service in the promotion of human welfare."

Recently, Dr. Shannon was elected to membership in the National Academy of Public Administration. Academy members are chosen for their distinction as scholars in public administration, and administrators.

Blood Donations Reported, One Reaches 8-Gal. Mark

The Clinical Center Blood Bank reports that 220 units of blood were received from NIH donors in May. In the same month CC patients received 2,514 units of blood.

During that period, three donors achieved a special status. Richard G. Clague, OSG, reached the 8-gallon mark. The others, W. Lee Cline, NIAID, and Helen A. Jahnes, NIMH, joined the Gallon Donor Club.

As part of his training at NIH, each Associate is assigned to a preceptor under whose direction he participates in a research program.

CC NURSING CONFERENCE

NCI's Study on Infertility Reveals That 1 in 10 Married Couples Face Problem

While people all over the world are becoming increasingly concerned with the problem of population control, one in every ten married couples is faced with a contrasting problem—infertility.

Ovulatory failure, which is a major cause of infertility, and the induction of ovulation, was the topic of discussion at a nursing conference held recently in the CC auditorium.

The conference, sponsored by the Admissions and Followup Nursing Service, focused on the nursing care required by patients who are participating in a National Cancer Institute study. They are being treated for ovulatory failure.

Claudia Seipp, head nurse, described normal reproductive endocrinology for the professional audience. Ovulation, she said, is controlled by the hormones of the hypothalamus, the anterior pituitary, and the ovary, all of which interact.

Hormones Released on Command

Follicle stimulating hormone and luteinizing hormone, both gonadotropins, are released by the anterior pituitary on command from the hypothalamus. These, in turn, stimulate the ovaries to secrete estrogens, and ovulation occurs.

Lessie McCain, clinical nurse, explained some of the interruptions and irregularities, both functional and anatomical, which can occur in this complex system and lead to problems of infertility.

Infertility is seldom caused by a single factor, she pointed out, but usually is due to a combination of factors.

The induction of ovulation was described by Dr. John R. Marshall, senior investigator of the NCI Surgery Branch.

All of the women selected as patients in the study, according to Dr. Marshall, had a very small likelihood of conceiving—some had not ovulated for as long as 14

years, but all had ova present.

In order to induce ovulation in these women, individually varying doses of human menopausal gonadotropins (HMG) were injected intramuscularly.

This HMG was a urinary extract of pituitary protein hormones—follicle stimulating hormone and luteinizing hormone. These work directly on the ovaries to cause the secretion of estrogen, and subsequently, to cause ovulation.

The 3-year study has already produced tangible results—twenty-eight pregnancies. About 90 percent of the women, according to Dr. Marshall, have been induced to ovulate, and about 50 percent have become pregnant.

Nursing care required by patients who have been visiting the Clinical Center on an out-patient basis for periods of 2 months to a year, was described by Lillian Davis, clinical nurse.

Nurses Offer Sympathy

One of the nurses' chief duties, she said, is to offer sympathy and understanding to these women who often become discouraged because of the frequent visits and examinations that are required.

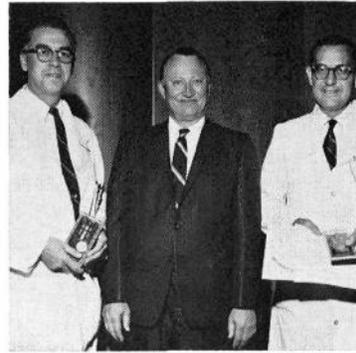
Because regular collecting of urine and recording of basal body temperature must be done by patients in their homes, the nurse must be sure, also, that the patient understands and follows physicians' recommendations.

This conference was one of seven annual nursing conferences held in the Clinical Center. The series will be continued in the fall.



Participating in a recent Clinical Center Nursing Conference on ovulatory failure were (left to right) Dr. John R. Marshall, senior investigator, NCI Surgery Branch; Lillian Davis, clinical nurse; Claudia Seipp, head nurse, and Lessie McCain, clinical nurse, all of the CC's Admissions and Followup Nursing Service.—Photo by Ralph Fernandez.

Drs. Alfred S. Ketcham, Paul B. Carbone Receive Medals for Their Work



Dr. Kenneth M. Endicott, NCI Director (center) is pictured with Dr. Alfred S. Ketcham (left) and Dr. Paul P. Carbone after the ceremony in which he presented medals to them in recognition of their contributions.—Photo by Ralph Fernandez.

Dr. Alfred S. Ketcham and Dr. Paul P. Carbone of the National Cancer Institute were presented Public Health Service Medals by Dr. Kenneth M. Endicott, NCI Director, at a recent ceremony.

Dr. Ketcham, chief of the Surgery Branch since 1962, was awarded the Meritorious Service Medal in recognition of original personal contributions in the field of surgical research and administrative leadership.

Dr. Carbone, recently named chief of the Medicine Branch, was awarded the Commendation Medal in recognition of his dedicated leadership in the activities of the Solid Tumor Service.

He was also cited for his efforts in organizing and helping to establish the NCI-sponsored Lymphoma Treatment Unit for the study of Burkitt's Tumor, at Makerere University, Kampala, Uganda.

Chamber Music Series To Be Featured at CC

The Foundation for Advanced Education in the Sciences will present three chamber music concerts in the CC auditorium during its 1968-69 concert season. Another musical program, to be announced later, will also be heard there.

The concerts will feature Mieczyslaw Horszowski, pianist; Jean Pierre Rampal, flutist, and Robert Veyron-Lacroix, harpsichordist.

Mr. Horszowski has played at the White House with Pablo Casals, and has also appeared at the Library of Congress. Mr. Rampal played at the Library of Congress, and, with Mr. Veyron-Lacroix, performed the Bach sonatas for flute and harpsichord at Johns Hopkins University.

Tickets for the concerts, to be held on Sunday afternoons, will be

Animal Import-Export Inter-Amer. Symposium Stresses Health Aspects

Papers on health problems associated with the importation and exportation of animals will be read and discussed at the "Inter-American Symposium on Health Aspects of the International Movement of Animals," to be held in San Antonio, Tex., on August 28 to 30.

The Pan American Health Organization and the Conference of Public Health Veterinarians are joint sponsors of the 3-day meeting.

Participants from Latin America, Canada, and the United States are expected to attend the symposium. Speakers will include Dr. Abraham Horwitz, Director, Pan American Health Organization; George L. Mehren, Assistant Secretary of Agriculture, and Dr. William P. Stewart, Surgeon General, PHS.

Also, Dr. Harold T. Vagtborg, President, Southwest Foundation for Research and Education, and Dr. Rafael Moreno Valle, Minister of Health of Mexico.

Simultaneous Translation

Speeches will be simultaneously translated into English and Spanish by the Pan American Health Organization. Programs will also be published in both languages.

Attendance at the Symposium is by invitation. Interested persons should contact Jim Augustine, Division of Research Facilities and Resources information officer, and symposium press officer, Ext. 67495, or write immediately to Inter-American Symposium, P.O. Box 8048, Washington, D.C. 20024.

Advance registration for the meeting has been extended to July 15.



Paul Vincent Turner (left), voucher examiner, FMB, receives an Employee Suggestion award for consolidating transportation forms from James A. Hickey, assistant chief, FMB. With Mr. Turner are (l. to r.) Marjorie Mims, Travel Audit supervisor, and Margaret Roberts, head, Claims Review Unit.—Photo by Ralph Bredland.

distributed in the early summer. Further information may be obtained at the Foundation's office, Bldg. 31, Rm. 3B05.



Martha Smith, who retired last month from DRS after 25 years with the PHS, is pictured at her farewell party. Standing are her supervisor, Howard Bartner (left), chief, Medical Illustrations Section, and Charles C. Shinn, chief, Medical Arts and Photography Branch.

Dr. Stanley Is Honored; Lauds Cooperation of Medical Investigators

Dr. Harold R. Stanley, Jr., clinical director of the National Institute of Dental Research, has been elected an honorary member of the American Association of Endodontists.

He received membership in recognition of his research in normal, damaged, and diseased human dental pulp. This research laid the groundwork for establishing international standards for studies on the subject.

Only six others have received the honorary membership given for their "significant contributions which have furthered the advancement of endodontic treatment."

Investigators Work Together

Dr. Stanley, who is retiring as president of the American Academy of Oral Pathology, pointed to the growing cooperation between investigators in different fields.

As an example, he cited a symposium at the recent annual meeting of the AAOP whose members are dentists trained in pathology.

Dr. Leon Sokoloff, National Institute of Arthritis and Metabolic Diseases, conducted the slide symposium, and as Dr. Stanley said, shared his knowledge of degenerative diseases and joint problems as they relate to the temporomandibular joint, salivary glands, oral cavity, pharynx, and larynx.

In time of emergency, what matters most is advance preparation.—President Johnson.

G.W.U. Presents Alumni Award to Dr. Axelrod

Dr. Julius Axelrod of the National Institute of Mental Health was recognized recently by George Washington University as one of its most distinguished alumni. He received the Alumni Achievement Award for 1968 at Spring Commencement exercises.

In presenting the award, University President Lloyd Elliott cited Dr. Axelrod for "pioneer research which has contributed a number of fundamental concepts about biochemical phenomena and for achievements which reflect distinction upon the University."

Dr. Axelrod earned his Ph.D. degree from the university in 1955.

Work Is Well-Known

Chief of the Section of Pharmacology in the Laboratory of Clinical Science, Dr. Axelrod is one of the country's foremost authorities on biochemical pharmacology.

He is well known for tracing the metabolic pathways of noradrenaline and adrenaline, for his work on the uptake, storage, and release of noradrenaline in the sympathetic nerves and on the effect of drugs on these processes.

Dr. Axelrod has been responsible for many other scientific advances including discovery of some 15 enzymes involved in drug metabolism.

He identified several normally occurring compounds in the urine which have proved useful in diagnosing tumors of the sympathetic nervous system.

Dr. Axelrod developed many of the micromethods for measuring drugs, hormones, and enzymes which are now widely used.



Dr. Axelrod

Barnacle Adhesive's Use As a Dental Restorative Reported in New Booklet

A booklet, entitled *Barnacle Cement as a Dental Restorative Adhesive*, has been published by the National Institute of Dental Research to stimulate interest and accelerate research into the total characterization of the barnacle adhesive.

Written by Dr. N. F. Cardarelli, Consultant to the University of Akron, the booklet reports on previous research by the B. F. Goodrich Company and current NIDR-supported research at the University under the direction of Dr. Roger Keller.

It presents a survey of the barnacle cement analysis program to date and the background to a rather fascinating scientific adventure.

The purpose of this study is to develop an adhesive dental restorative; it would also have considerable significance for medical uses.

Current Methods Imperfect

At present, the restoration of decayed teeth requires that the filling be mechanically locked into the teeth. This involves removal of sound tooth structure and, in some instances, a sacrifice of tooth strength.

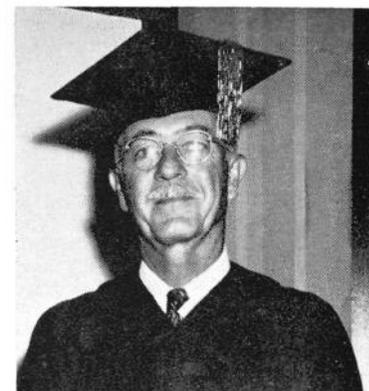
If an adequately adhesive filling material were available, it would be necessary to remove only the diseased tooth structure and place the filling directly. Considerable economy in the costs of repairing teeth as well as conservation of sound tooth structure would result.

Single copies of this booklet can be obtained by writing to the Collaborative Research Office, National Institute of Dental Research, Bethesda, Md. 20014.

Dr. George Z. Williams Receives Honorary DSc From Univ. of Colorado

Dr. George Z. Williams, chief of the Clinical Center Clinical Pathology Department, was awarded an honorary Doctor of Science degree from the University of Colorado at Commencement Day ceremonies on June 7.

Dr. Joseph R. Smiley, President of the University, made the presentation. Dr. John J. Conger, Vice President for Medical Affairs and Dean of the School of Medicine, read the citation which commended Dr. Williams for his "... important contributions to the scientific de-



Dr. George Z. Williams was cited for his important contributions to the scientific development of medicine.

velopment of medicine in this century."

An internationally renowned clinical pathologist, Dr. Williams' studies of biochemical profiles in normal persons have stimulated widespread interest.

He has contributed literature on research in governmental cancer pathology and study of cell chemistry by ultraviolet microscopy.

In 1953, Dr. Williams was selected to be the first chief of Clinical Pathology for the CC. He has pioneered in the adoption of computer techniques for clinical chemistry and clinical pathology.

Awards Listed

Dr. Williams studied at the University of Denver before earning his M.D. from the University of Colorado.

His awards include The Ward Burdick Award, American Society of Clinical Pathologists, 1961; Superior Service Award, DHEW, 1964, and Distinguished Service Award, DHEW, 1965.

Where a person lives may determine how long he lives. For white American men aged 45 to 62, the highest death rate areas are along the East Coast.—National Center for Chronic Disease Control.



Two employees of the Clinical Center's Environmental Sanitation Control Department are honored by coworkers at a recent retirement ceremony. Left to right are: Gordon Gamble, chief, Operations Section; Fanny Dickens, Operations Section supervisor; Louis Holly, retiring after serving at the CC since its opening in 1953; Martha Massey, retiring after 5 years at the CC; Howard W. Spence, chief, ESCD; and Lucille West, Operations Section supervisor.—Photo by Ed Hubbard.



Malnutrition causes many diseases that thrive in overpopulated and underdeveloped areas. The problem will be intensified during the next 30 years as the world population doubles to an estimated seven billion, bringing street scenes that may even be more crowded than that shown here.

NUTRITION

(Continued from Page 3)

With a tradition of nutrition research going back to Drs. Joseph Goldberger and W. H. Sebrell and their classic work on pellagra, NIAMD today is helping combat malnutrition in cities of India and at the International Rice Research Institute in the Philippines.

In these areas, NIAMD participates in research with a number of other groups, including representatives of other Government agencies, missionaries, philanthropic foundations, universities, and industrial concerns.

Much of the financing for the NIH studies comes through Public Law 480 funds, in which U.S.-owned foreign currencies are available for projects in the host country.

Under this program, NIAMD is participating in studies of the genetics of protein production in rice plants at the IRRI.

Rice Is Diet Mainstay

Sixty percent of the world's population depends on rice as a dietary mainstay. The IRRI is maintained by the Rockefeller and the Ford Foundations.

Here scientists are screening more than 7,000 strains of rice for those high in protein and especially in lysine, an amino acid essential to an adequate diet.

The most stable high-protein strains will be cross bred with a new plant type that IRRI has developed especially for its high yield of rice kernels and for its hardiness in areas subject to monsoon rain and winds.

The new strain, IRs, is shorter and stockier than normal, is disease resistant, and stands up under winds that might blow taller stalks down into the foot-deep water of the rice paddy.

While seeking a scientific basis for saving future populations from

starvation, one goal of NIAMD programs is to help get nutritious food to children now.

Toward this goal, two additional projects—one at the Christian Medical College, Vellore, India, and another at the Central Food Technological Institute in Mysore—are closely related. The Mysore project is developing protein-rich food supplements based on locally available sources.

The supplements are being used to prevent the widespread, endemic kwashiorkor prevalent among undernourished preschool-age children in India (and in many underdeveloped tropical and subtropical areas of the world). At Vellore, clinical trials are underway of experimental protein blends developed in Mysore.



Monkeys participate in Vellore studies on how the body processes various nutrients. Near the rural scene shown here are recently completed, modern facilities for nutrition research. Combining clinical wards and research laboratories, these new facilities foster the easy exchange of information between "bench" workers and clinicians.

Retarded growth, apathy, accumulation of fluid in tissues, and characteristic hair and skin changes are among symptoms of this disease, which has a high death rate; recovery is common if high quality protein is supplied in time.

ADVISOR

(Continued from Page 1)

vironmental Control.

2. Transfer of the Division of Regional Medical Programs from the National Institutes of Health to the new Health Services and Mental Health Administration, the latter to be directed by Dr. Robert Q. Marston, former Director of DRMP. Dr. Stanley W. Olson has been appointed to succeed him as DRMP Director.

3. Establishment of the post of Under Secretary for Health and Science, the only organizational proposal requiring Congressional approval.

In recommending these changes to the President, Mr. Cohen pointed out the growing Federal role in meeting the Nation's health problems, as well as the scope and cost of these programs.

"To effectively implement these programs and to provide an organizational basis for the additional improvements which must be taken in the future," he stated, "changes in the organizational structure must be made so that the Federal Government may effectively work with State and local governments and the private sector in bringing high quality health care to all the American people."

The hope for prevention of kwashiorkor rests on the local development of inexpensive and nutritionally adequate protein sources, on a gradually diversified, improved dietary pattern, and on intensive nutrition education efforts.

The Mysore and Vellore projects are primarily involved in the first of these three, and have been very productive in this area.

New Concentrates Developed

A series of inexpensive protein concentrates have been developed from widely available local plant sources such as peanuts and pea and bean-like plants.

For instance, a Mysore-pioneered mixture of wheat, peanut flour and Bengalgram (a local chickpea) is now widely used in various famine areas for the feeding of growing children. Its price is very low and it is nutritionally superior to anything these children received previously.

Similarly, special infant formulas and weaning foods based on nutritious mixtures of inexpensive vegetable proteins have been developed. These have been clinically tested in Vellore and are now ready for commercial production and distribution.

Further, large-scale feeding experiments and clinical studies have been conducted to establish the usefulness of supplementing the typically marginal rice diets of children with protein components essential for growth and development such as the amino acids, lysine and

Frank W. Cady to Head Grants Assoc. Program

Frank W. Cady has been named executive secretary of the NIH Grants Associates Program. He replaces Dr. Richard L. Chapman who will join the National Academy of Public Administration in mid-July.



Mr. Cady

In his new position Mr. Cady, in collaboration with the institutes and divisions of NIH, assists in planning, scheduling, and supervising the training of scientists for staff positions in grants administration.

Mr. Cady returns to the Division of Research Grants, which administers the Grants Associates Program, from the National Cancer Institute where he was assistant administrative officer, Office of the Director.

From 1965 to 1967, he was a personnel management specialist at DRG.

He received the B.A. degree from Cornell University in 1947.

Since 1965, he has attended the University of Maryland doing graduate work in the field of public administration.

others.

Organization of well-controlled feeding centers and stations in surrounding villages has facilitated the nutrition research. The orphanage center at Walajapet near Vellore, for example, was featured in the Feb. 9, 1965 issue of the *NIH Record*.

Along with these efforts, laboratory and clinical studies are conducted on deranged metabolism in kwashiorkor and related dietary deficiencies—with particular emphasis on the extreme vitamin A deficiency found locally which, in many instances, leads to total blindness.

Many of the high protein supplements developed in Mysore and tested in Vellore are based on peanut flour. Unfortunately, in this tropical area many of the peanuts are infested with *aspergillus* mold and consequently contain the highly toxic factor aflatoxin.

Process Inactivates Aflatoxin

An important advance in Mysore has been the development of a process capable of inactivating aflatoxin in peanut flour. This inexpensive new process is now in the pilot plant stage.

As Dr. Benjamin T. Burton, NIAMD associate director and project officer for these studies, points out, the Institute's efforts in underdeveloped areas are aimed at helping the people to help themselves.

NEWBORNS

(Continued from Page 1)

the mental retardation that may otherwise result.

Three other inborn errors have been identified in the past 2 years by Dr. Roscoe O. Brady and a team of researchers in the Laboratory of Neurochemistry, NINDB.

Dr. Brady, who spoke at the meeting, has identified the enzyme deficiency in Niemann-Pick's, Gaucher's, and Fabry's diseases and has developed tests for diagnosing patients with these disorders.

He has also developed a test for diagnosing a fourth disorder, metachromatic leucodystrophy, by the use of white blood cells.

Patients with inborn errors of metabolism, some of which are inherited dominantly and some recessively, may have deficiency of an enzyme needed for breaking down one substance into another.

These patients have elevated levels of the substance which should be, but is not, broken down. As the substance accumulates in body tissues a variety of symptoms result, often including brain damage, mental retardation, and other nervous system damage.

Some inborn errors are severe enough to produce symptoms in

Relatively Fast, Simple Test to Detect Viral Infection Adapted to NIAID Study

A relatively fast and simple test for detecting minute evidence of viral infection has been adapted to the study of animal tumor viruses by scientists of the National Institute of Allergy and Infectious Diseases.

This test is currently being used in studies in the Laboratory of Biology of Viruses.

The microscale radioisotope immunoprecipitation test (RIP) is 50 times more sensitive in detecting antiviral antibody than standard complement fixation tests.

New Test More Effective

It can provide insight into the different ways the same virus strain interacts with different cells, can reveal hitherto unknown differences between viruses from the same population, and can ferret out evidence of viral infection which would be missed by other tests.

Drs. H. L. Ozer and K. K. Takemoto, NIAID, have modified the RIP test, devised several years ago for studying poliovirus, for the study of SV-40, a monkey virus which causes tumors in animals.

The three components in the RIP test are purified, radiolabeled virus, antiviral serum (serum containing antibodies against the virus, called AV), and antibody against AV globulin. The components are combined in the test tube, then centrifuged.

Since no precipitate is visible, "precipitation" is determined by measuring radioactivity remaining

programs for a large number of genetic disorders which affect a relatively small proportion of the population.

It was emphasized that the clinical goal of any screening program was to institute treatment to keep the patient healthy.

Although a blood test may give a positive result, further testing and clinical examinations may show the child does not have the genetic disorder.

Methods Discussed

Methods of handling such false-positive cases were discussed by the investigators as were methods of automating testing procedures.

As more and more inborn errors are identified, and diagnostic tests developed, physicians will need the aid of automated testing procedures which require only one sample of blood or urine to detect a number of disorders.

Simple, accurate, and economical procedures to test samples and report results, is one of the ways in which technology can be most useful in this area of medical research and practice.

Several participants reported on techniques and experiences used in setting up screening programs in their hospitals and medical centers.

in the supernate. The test requires only 4 hours as opposed to 1 to 3 weeks for neutralization tests.

Addition of the antibody against AV globulin, Dr. Ozer explained in a recent interview, enhances the efficiency of precipitation and thereby increases the sensitivity of the test, making possible the detection of far smaller amounts of virus-antibody interaction. Up to 95 percent of the virus-associated radioactivity is precipitable in this system.

Other Values Noted

In addition, according to Dr. Ozer, the test has the value of showing differences in the antigenic makeup of viruses and detecting partial reactions between virus and antibody, whereas standard complement fixation tests show only the similarities between viruses.

Adapting this test, originally described in 1962 by R. K. Gerloff and others of the NIAID Rocky Mountain Laboratory, to the SV-40 virus implies that it can be extended to other systems as well.

Applying it to SV-40 as a representative of one class of tumor viruses, Dr. Ozer said, adds another dimension of analysis by making possible detection of virus coat material where it might not be expected and antibody where it is not normally found.

Test Is Specific

Inhibition of the virus-antibody interaction by addition of virus which is not radiolabeled permits the detection of 10 to 100 times less antigen than is detected with complement fixation, Dr. Ozer noted.

Also, the test is specific: purified polyoma virus, another tumor virus which is structurally similar to SV-40 virus, does not cross react in this system.

Using the RIP test, the NIAID scientists have studied large and small plaque mutants of SV-40 virus, and have found that the large plaque virus coat contains one or more antigens which are either absent or very much decreased in the small plaque virus.

Special Requirements Cited

Since anti-globulin reagents are being developed, and antibody can be made by the experimental animal, the only special requirements for use of the RIP test as a fast, reliable serological tool for virus assay, Dr. Ozer pointed out, are purified radioactive virus and an isotope counter.

ARTIFICIAL

(Continued from Page 1)

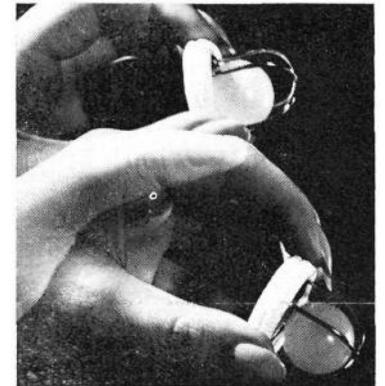
coagulant drugs would be harmful during the early period while tissue ingrowth was proceeding.

Thus, the experimental studies in calves were expanded to obtain this information, and the favorable results obtained led to clinical implantation of cloth-covered Starr-Edwards ball valves in 49 patients.

Twenty-three of these patients underwent replacement of the mitral valve, the heart valve most prone to engender blood clots following valve surgery.

The scientists noted a slight increase in tissue build-up on cloth-covered valves beyond one year in calves, but this occurred on the outside of the valve frames and never interfered with valve function.

Short-term (2 to 5 week) anti-



Shown here is the Starr-Edwards ball valve with bare metal frame.—Photo by Lee Bragg.

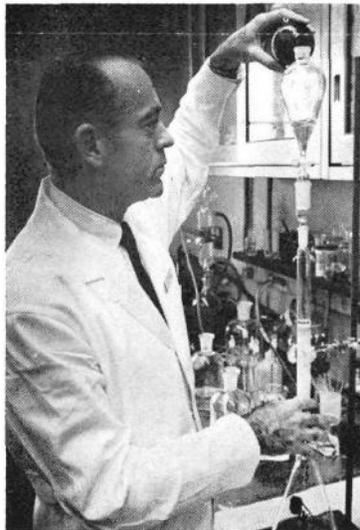
coagulant protection appeared to benefit tissue ingrowth in these animals by causing a thinner initial deposit of fibrin and platelets, thus speeding up the process whereby these components "heal" and become organized into fibrous tissue.

Studies in man, indicating that tissue ingrowth occurs at a much slower rate (tissue encapsulation at 3 months in man was comparable to that seen at 2 to 3 weeks in the calf), led the NHI surgeons to extend the period of anticoagulant protection in patients to 6 months postoperatively.

Only One Episode Reported

They reported that only one embolic episode occurred in the 22 surviving patients 6 to 14 months following implantation of fabric-covered mitral valves.

Although catheterization studies revealed slight pressure gradients across the valve in two patients, suggesting the possibility of excessive tissue build-up, the surgeons reported that the use of a thinner Dacron fabric may preclude this possibility and further hasten maturation of the tissue capsule.



Dr. Roscoe O. Brady, acting chief of NINDB's Laboratory of Neurochemistry, prepares radioactive compounds for enzyme analysis, using column chromatography apparatus. This is one of the steps used to identify the specific metabolic defect underlying Niemann-Pick's disease.—Photo by Jerry Hecht.

infants and young children. In other disorders, body tissues may not be affected until the patient is older, sometimes even middle-aged.

In a few disorders, tests to detect carriers who may exhibit mild symptoms have been developed.

Much of the discussion at the workshop centered on the desirability of conducting mass screening

DR. MASLAND

(Continued from Page 1)

ters from early pregnancy through birth.

The project, designed to clarify the causes of cerebral palsy, mental retardation, and other neurological disorders, will continue to study the children until they are of school age.

Dr. Masland's special interest in this subject began before coming to NIH and includes a nationwide survey he conducted from 1955 to 1957 of research facilities and potential in the field of mental retardation. The results of the study were published in 1958 in the book "Mental Subnormality."

During the past few years, Dr. Masland's personal research interest has centered on the problems of minimal brain dysfunction and dyslexia, and he has been a national speaker on these topics.

Among recent awards he has received are the Award of Merit from the National Association for Retarded Children in 1963, the United Cerebral Palsy Max Weinstein Award in 1967, the DHEW Superior Service Award in 1967, and the Honors of the Association, National Speech and Hearing Association, 1967.

Dr. Masland received the A.B. degree from Haverford College, and the M.D. degree from the University of Pennsylvania School of Medicine in 1935.

He was with the Pennsylvania Hospital, the U.S. Army School of Aviation Medicine, and the Pennsylvania Institute for Mental Hygiene.

From 1947 until coming to NINDB, he was professor of neurology at the Bowman Gray School of Medicine, Wake Forest College.

In 1955-56 he took a leave of absence to accept appointment as Research Director, National Association for Retarded Children.

At the present time, Dr. Eldon L. Eagles is serving as Acting Director of the NINDB.



For proposing a new system for handling patient referrals to the Institute's Dental Clinic, Dorothy M. Heffernan, an NIDR secretary, receives a cash award under provisions of DHEW's Employee Suggestion Program from Dr. Harold R. Stanley, NIDR clinical director.—Photo by Ralph Fernandez.

Dr. John Dunbar Named Chief of NHI Branch

Dr. John B. Dunbar has been appointed chief of the Program Projects Branch, Extramural Programs, National Heart Institute. Since last October, Dr. Dunbar has been program director for the Health Sciences Advancement Award Program, General Research Support Branch, DRFR.

As chief of the Program Projects Branch, Dr. Dunbar will be respon-



Dr. Dunbar's professional career has included teaching, research, private practice and consultant services.

sible for directing the Institute's research grants program in support of broadly based, long-term programs of cardiovascular research.

These grants provide the administrative flexibility needed to enable scientists from separate departments and laboratories to pool their specialized talents for an interdisciplinary attack on particular research problems.

Background Noted

A native of Birmingham, Ala., Dr. Dunbar received his B.A. degree from Birmingham Southern College and his Doctor of Dental Medicine degree from the University of Alabama School of Dentistry. He also studied at Tulane University, where he earned a doctorate in Public Health.

Dr. Dunbar's professional career has included private practice, research, teaching and consultant services involving several universities, among them the University of Kentucky Medical Center, the University system of Arizona, and the University of Alabama Medical Center.

Prior to joining the National Institutes of Health in 1967, Dr. Dunbar served as assistant dean of the Medical College and School of Dentistry and coordinator of research grants for the Medical Center at the University of Alabama.

Dr. Dunbar has authored a number of papers on such topics as oral epidemiology, biomedical manpower and institutional planning.

NIH Seeks to Develop Career Interests In Its Two Summer Student Programs

As the 1967-68 academic year comes to a close, many high school and college students will be working at NIH this summer. A number have already started, and more will be arriving soon.

Approximately 600 persons are being hired this year under the Summer Employment Program here. Of this group, about 300 disadvantaged youths, ages 16 through 21 (including about 120 from the innercity area), are being employed under the 1968 Youth Opportunity Campaign.

Some Qualify by Exam

The remaining 300 summer employees are high school graduates and college students (at both undergraduate and graduate levels) who are employed through the competitive 1968 Civil Service Employment Examination and under the NIH graduate merit employment program.

For administrators, the arrival of these summer employees marks the culmination of extensive planning and preparation. For the young people, their arrival marks the beginning of an opportunity for a meaningful employment and training experience.

The Youth Opportunity Campaign places special emphasis on providing employment and training for disadvantaged youths in order to acquaint them with the requirements, as well as the satisfactions of work, and to supply them with needed information about the various career opportunities available.

For many, their jobs this sum-

mer will represent their first exposure to a work situation. Young people employed under this program are paid \$1.60 per hour. They will perform a variety of services and tasks in offices, shops, laboratories, animal facilities, library functions, etc.

The regular summer employees (high school graduates, college undergraduate and graduate students) make up approximately 50 percent of the NIH total summer program.

High school and undergraduate college students are employed at GS-1 through 4 in such positions as clerks, typists, stenographers, laboratory assistants, statistical clerks, and engineering aids. Graduate students are assigned in positions related to their academic field at GS-5 and 7.

A new element in this summer's program will be an effort to assimilate all of these students with the regular Civil Service staff.

Objectives Cited

The primary objective of the program for young people still in school or in college is to help develop their interest in and knowledge of public programs, particularly those of NIH and DHEW, and to acquaint them with the challenges and opportunities in the Federal Government.

These students will be able to participate in a number of inhouse seminars and interagency lectures about ongoing Federal programs and other related topics in addition to their regular work assignments.

Milton Skolaut Elected Treasurer of ASHP

Milton W. Skolaut, Clinical Center Pharmacy Department, was elected to a 3-year term as Treasurer of the American Society of Hospital Pharmacists by the Society's House of Delegates at the 1968 Annual Meeting in Miami recently. He is also chairman of the Committee on Site and Building and Committee on Accreditation.

Organizes Department

Mr. Skolaut joined the Clinical Center in 1952, organized its Pharmacy Department, and has served continuously since then as its chief.

After graduating from the University of Texas College of Pharmacy in 1941, he served his internship at the Johns Hopkins Hospital. Later, he was appointed assistant chief pharmacist at the hospital.

In 1967, he received the Andrew Craigie Award, "for imaginative leadership in the science of pharmacy in the Federal Service."

2 Films on LSD Featured By EHS Here During July

Two documentary films about the drug, LSD, are being shown by Employee Health Service for NIH personnel in July.

The first film, "LSD-25," is concerned with the drug scene and its impact upon youth. It may be viewed at the Clinical Center auditorium on July 9 at 11:30 a.m. and 12:15 p.m. It will be at the Westwood Building, Conference Room A, on July 10 at 1:30 and 2:30 p.m.

"Beyond LSD," the second movie, is directed to the underlying causes leading to drug abuse. It concerns itself primarily with the communications gap between teenagers and the generation over 30—the Establishment.

This film will be shown at the CC on July 16 and in the Westwood Building on July 17 at the same hours designated for "LSD-25."