

FASEB to Meet In Atlantic City April 10 to 14

An estimated 12,000 scientists from the United States and 35 foreign countries are expected to attend the 45th annual meeting of the Federation of American Societies for Experimental Biology in Atlantic City April 10-14.

Two thousand, eight hundred and fifteen papers, including about 150 from NIH, will be presented by approximately 5,200 authors. In this respect, it will be the largest scientific meeting ever held, according to the Federation's announcement.

Will Report Findings

Findings reported at the meeting will represent the latest information in the fields of heart disease, radiation protection and recovery, cancer, organ transplantation, human and domestic animal nutrition, and drugs affecting human behavior.

A feature of the Federation meeting will be a joint session of the six member societies on Tues-

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Hamsters' Tryouts Set For Tonight, Tomorrow

The NIH Hamsters are holding tryouts tonight and tomorrow night at 8 o'clock for the 32 parts in "The Skin of Our Teeth," a Thornton Wilder play that will be presented here late in June.

The tryouts tonight will be held in Wilson Hall and tomorrow in the CC auditorium.

The play is one of three selected by the State Department as representative of modern American drama, and is currently touring the capitals of the world with a company headed by Helen Hayes.

Paul Blank, CC, is the director of the NIH production. Assistant director is Jack Robinson, NIAMD. Ozzie Grabner, OAM, is producer.

Others handling important functions of the show will be Betsy Slay, OIR, makeup; George Marsden, DRS, set design; Sarah Raskin, National Academy of Sciences, costumes; and George Bragaw, NIAMD, publicity.

Scientists, Statesmen Praise Decade of NIAMD Progress

By George Bragaw

Ten years of accomplishment by the National Institute of Arthritis and Metabolic Diseases were commended by scientists and statesmen during three-hour ceremonies marking the Institute's first decade of operation.



SECRETARY RIBICOFF is greeted by Dr. G. Donald Whedon, NIAMD Assistant Director, on arrival at the Clinical Center where he participated in the NIAMD Tenth Anniversary celebration. — Photos by Jerry Hecht.

The program, held March 9 in the Clinical Center auditorium, included a comprehensive "Report to the Nation" on the progress made against arthritis and metabolic diseases since the Institute began operation in the fall of 1950.

Ribicoff, Terry Speak

A group of approximately 500, including past and present members of the NIAMD Advisory and Intramural Councils, representatives of scientific societies and voluntary health agencies, and scientific attaches of foreign embassies, heard talks by Secretary Ribicoff and Surgeon General Terry.

The occasion marked Secretary Ribicoff's first visit to NIH and Surgeon General Terry's first return here since leaving the Heart Institute to head the PHS.

Senator Hill of Alabama, Dr. (See ANNIVERSARY, Page 8)



HEALTH HEADS CONFER in the Board Room of the Clinical Center prior to the NIAMD Tenth Anniversary program in the CC auditorium. Left to right: Dr. James A. Shannon, NIH Director; Dr. Luther L. Terry, PHS Surgeon General; Dr. Janet Travell, the President's physician; Abraham Ribicoff, DHEW Secretary; and Dr. Floyd S. Daft, NIAMD Director.

Kennedy Requests April Conference On Heart, Cancer

Dr. James Watt, Director of the National Heart Institute, and Dr. Kenneth M. Endicott, Director of the National Cancer Institute, have been requested by President Kennedy to participate in the President's Conference on Heart Disease and Cancer, which will present its report to the President at the White House April 22.

President Sends Wire

A wire from President Kennedy asked their assistance "in charting the Government's further role in a national attack on the two major causes of death in our country—heart disease and cancer."

The two Institute Directors will also assist in making arrangements for the Conference. Chairman of the Conference is Boisfeuillet Jones, recently appointed Special Assistant for Health and Medical Affairs, DHEW.

President Kennedy's announcement of the Conference, on March 15, included the statement that "... the Department of Health, Education, and Welfare will then invite a number of distinguished

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NIH Awards 64 Grants For Research on Aging

PHS Surgeon General Terry recently announced that NIH has made 64 grants to private institutions totaling \$1,427,883 for research in various aspects of aging.

The grants were made by the Surgeon General upon the recommendations of eight National Advisory Councils which met in November.

Twenty-three of the grants, amounting to \$389,729, are continuations of previous projects, while 41, totaling \$1,038,154, are new grants.

In addition to grants made to investigators in 25 States and the District of Columbia, one was made for studies at the University of Cape Town, Rondebosch, South Africa.

the Record

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DBS Invites NIH Employees to Become Members of Typed Blood Donors Panel

For the fourth time in five years, the Division of Biologics Standards extends an invitation to NIH personnel to become members of the employee Panel of Typed Donors.

Panel members are called upon periodically to donate small samples of blood used in control testing procedures by the DBS Laboratory of Blood and Blood Products.

Needs Rare Types

In its continuous search for rare blood types, the Laboratory has typed the blood of 1,515 NIH employees. At present, however, only 750 donors are listed on the panel. New members are needed now to extend the panel and to replace donors who have left NIH.

The panel currently supplies 90 percent of the Laboratory's reagent red cells which are used in the control testing of diagnostic reagents.

These blood grouping and Rh-typing serums are submitted by licensed manufacturers to the Laboratory for testing before distribution to blood banks throughout the country.

Participants in this program

make an initial donation of 10 ml. of blood which is used to determine the major blood group, four Rh factors, and other factors less frequently identified.

This data is given to each donor on a wallet-sized card and is a source of valuable information for the employee in case of emergency transfusion needs or blood donations.

Depending upon the need for laboratory reagent blood cells, panel members may be called upon from one to 12 times a year for additional donations.

The small amount of blood required for this purpose will not affect the status of donors who may want to provide blood for transfusions.

After the initial blood sample is given, panel members receive a minimum payment of \$2 for each subsequent donation. They are also urged, insofar as possible, to remain accessible to the future needs of the panel.

Further information and application blanks are being distributed to each NIH employee.

CONFERENCE

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medical leaders throughout the country to participate in this program."

Twenty-four of the country's leading scientists and physicians representing the heart and cancer fields have been invited to participate in the Conference.

The Conference implements one of the President's campaign pledges, which promised a long range program for the prevention and control of heart disease and cancer.

Conference participants will prepare papers covering problems and current progress in the field, and resources available. They will report on basic research, clinical research, manpower and training, facilities, and community services and public education.

Drs. Watt and Endicott will receive and coordinate the report drafts.

A preliminary meeting of the participants will be held at NIH on



Dr. Endicott

Dr. Watt

April 15 to prepare the final draft of the report.

Those invited are Drs. John R. Heller, former Director of NCI and now President of the Memorial Sloan-Kettering Cancer Center; E. Cowles Andrus, Johns Hopkins Hospital; H. Stanley Bennett, University of Chicago; Julius Comroe, San Francisco Medical Center; Michael De Bakey, Baylor University College of Medicine; Harold Diehl, American Cancer Society; Sidney Farber, Children's Cancer Research Foundation; Charles Huggins, University of Chicago; Irvine Page, Cleveland Clinic; Isidor S. Ravdin, University of Pennsylvania Hospital; Peyton Rous, Rockefeller Institute; and Harold P. Rusch, University of Wisconsin.

Also Drs. Howard E. Skipper, Southern Research Institute; Wendell Stanley, University of California; H. Burr Steinbach, University of Chicago; George Wakerlin, American Heart Association; Shields Warren, New England Deaconess Hospital; Myron E. Wegman, University of Michigan School of Public Health; Robert Wilkins, Boston University School of Medicine; J. Walter Wilson, Brown University; Paul D. White, Boston, Mass.; and Irving Wright, New York City.

Council on Medical TV, Dental TV Institute Meet Here in April

The Council on Medical Television will hold its Third Annual Meeting here April 6 and 7. On the preceding day, April 5, the Council will conduct a Dental TV Teaching Institute. Both meetings will be held in the Clinical Center.

The one-day Institute will include discussions on the use and technical aspects of television in dental education, and a "do-it-yourself" clinic.

On April 6, after a welcome by Dr. Murray C. Brown, Chief, Clinical and Professional Education, NIH, and Chairman of the Council's Program Committee, the Council members will hear talks on various uses of television in the health-science professions.

Fletcher to Attend

Following the Council business meeting and elections on the evening of April 6, a seminar will be held on "Problems and Techniques of Health-Science TV Programming for the Lay Public." John E. Fletcher, formerly Chief, ORI, will be one of the discussion leaders.

The second day's sessions of the Council meeting will include reports on the use of television at four U.S. medical schools.

No advance registration for the meeting is necessary. Personnel of NIH and other areas of the Public Health Service are not required to pay the registration fee.

Dr. Kennedy Appointed Award Board Chairman

Dr. Thomas J. Kennedy, Jr., Assistant to the Director of Laboratories and Clinics, OD, has been appointed by Dr. Shannon as Chairman of the seven-member NIH Board on Employee Awards.

Chosen to represent varied interests of the Divisions and Institutes in scientific and administrative areas, the six additional members of the current Board are Dr. Heinz Specht, Chief of the Laboratory of Physical Biology, NIAMD; Dr. Willard H. Eyestone, Assistant Chief for Primate and Veterinary Grant Programs, NHI; Zelda Schiffman, Assistant Chief, Management Policy Branch, OD; Ellen Walsh, Assistant Chief, Social Service Department, CC; Joseph Albrecht, Head of the Pathological Technology Section, Laboratory of Pathology, NCI; and Glenmore Wilbur, Assistant Chief, Personnel Management Branch, OD.

The new Board held its first meeting February 28 to consider proposals for awards for adopted suggestions, superior performance, and special acts of service. Review meetings will be held the first Wednesday of each month.

YOUR NAME _____			
YOUR ADDRESS _____			
YOUR TEL. NO. _____		DATE _____	
YOUR BLOOD IS	Rh ₀	(D)	Negative
GROUP A ₂ B	rh'	(C)	Positive
Rh Type*	rh''	(E)	Positive
	hr'	(c)	Positive
	M		Negative
	N		Positive
	K (KELL)		Negative
	Fy ^a (DUFFY)		Positive

*You are generally considered Rh positive as a donor and Rh negative as a recipient

ARE YOU ONE IN 5,000? This card, similar to those issued to all members of the Panel of Typed Donors, illustrates a rare combination of Rh factors found in the blood of about one out of every 5,000 persons.

Science Section

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

NCI Scientists Report Further Work With Moloney-Isolated Virus

Dr. John B. Moloney of the National Cancer Institute's Laboratory of Viral Oncology reported in April 1959 that a virus isolated from transplantable sarcoma 37 causes a lymphoid leukemia in mice, regardless of their age or genetic type. Since then, he and other NCI scientists have gathered additional data on the virus and the disease it causes for the purpose of establishing a model system to be used in studies of the role of viruses in human cancer.

This report summarizes some of the findings published in three recent papers by Drs. Moloney and Robert A. Manaker of the Laboratory of Viral Oncology, and Thelma B. Dunn of the Laboratory of Pathology, and their associates.

Crosses Species Barrier

The disease has been reproduced in an inbred strain of rats inoculated when newborn with cell-free extracts of leukemic organs from mice, thus demonstrating that the virus crosses a species barrier. (Moloney).

Inactivation of the virus in a test tube by immune serum from rabbits has provided evidence that the virus stimulates production of neutralizing antibodies in a nonsusceptible host. This finding suggests the possibility of employing the techniques of serology in studies of the virus. (Moloney).

An investigation of the biochemical nature of the virus has indicated that the nucleic-acid component, which carries genetic information, is ribonucleic acid (RNA). (Moloney).

Passes Serially

The virus has been maintained in cultures of normal mouse spleen cells. If the cultures are incubated for two weeks, the virus can be passed serially for extended periods. This work has furnished a convenient tool for further studies of virus-host cell interactions. (Manaker).

The sequence of histologic changes observed in mice receiving the virus has been reported in detail. The most clearly neoplastic changes occur in the thymus, from which the disease appears to spread to other organs. This finding is consistent with reports that the thymus plays an important role in development of leukemia. (Dunn).

Dr. Moloney's report appears in the National Cancer Institute Monograph No. 4. The report by Dr.

Guinea Pigs Are Hosts To SE Polyoma Virus

It has been earlier shown that the production of tumors by the SE polyoma virus (isolated in 1957 by Drs. Sarah E. Stewart, National Cancer Institute, and Bernice E. Eddy, Division of Biological Standards) was not restricted to its original host, the mouse. Other animal species—the hamster, rat, and rabbit—have also been found to develop various forms of neoplasms when infected with the virus.

Recent investigation now extends the host range to the guinea pig. Drs. Bernice Eddy, Gerald Borman, Ruth Kirschstein, and Mr. Robert Touchette, of DBS, have found that the guinea pig, when infected with SE polyoma virus, also develops neoplasms, considered to be sarcomas. (*Journal of Infectious Diseases.*)

Gross tumors were evident in 28 of the 47 guinea pigs examined when the virus was given either subcutaneously or intramuscularly, but proportionally more tumors developed when the animals were infected by the intramuscular route.

The virus isolated from tumor tissue of one guinea pig was found to be identical in all respects with the SE polyoma virus used to infect the guinea pigs.

Effect Varies

The tumor-inducing effect of the SE polyoma virus varies in the different species of animals which have been tested. Neoplasms were found to develop more slowly in the guinea pig than in the hamster, mouse, rat, and rabbit. Gross tumors occurred at the site of inoculation, but histologic examination showed tumors in the liver, lung, spleen, adrenal, and kidney of some of the guinea pigs.

In the other animal species studied, neoplasms may occur at the site of inoculation, although they are usually found in selected tissues. Lesions most frequently occur in the parotid glands of mice; in the heart, kidneys, liver or subcutaneous tissues of hamsters; in the kidneys or subcutaneous tissues of rats; and in the subcutaneous tissues of rabbits.

Manaker, whose coauthors are Pat-sy C. Strother, Alice A. Miller, and Chester V. Piczak, appears in a recent issue of the *Journal of the National Cancer Institute*. The report by Dr. Dunn, in collaboration with Dr. Moloney, Arleigh W. Green, and Betty Arnold, appears in another recent issue of the *Journal of the National Cancer Institute*.

Progress Against Arthritic Diseases Takes Dramatic Upswing Since 1951

Excerpts from address by Dr. Currier McEwen, Professor of Medicine, New York University College of Medicine, at the Tenth Anniversary celebration of the National Institute of Arthritis and Metabolic Diseases. Excerpts from other of the scientific addresses on that occasion will appear in future issues of the NIH RECORD Science Section.

Such great progress has been made in the fight against arthritis and rheumatism in recent years that the new workers in this field and the public may assume it was always so. But for those of us whose efforts in this campaign have spanned the years long enough to permit perspective, there can be no greater contrast than that between the decade we are celebrating today and the lean years stretching back before it.

Field Is Barren

Prior to 1951 the field of arthritis was barren and uncultivated. In the whole nation there were only four medical schools with comprehensive research and teaching programs in the rheumatic diseases and it has been estimated that the entire research support from all sources was under \$300 thousand annually.

This apathy on the part of the nation's people and scientists is difficult to understand in the face of the enormous problem created by these diseases, which afflict over eleven million people in our country and cause the loss of some 80 million work days each year. Translating these figures into dollars helps make clearer the seriousness of the problem in terms of the national economy for it is estimated that these diseases cause, each year, the loss of one and one-half billion dollars in gross national product. While these figures are sobering, they cannot measure the greater toll taken in terms of human suffering and despair.

Apathy Crumbles

Fortunately this apathy began to crumble in the years just before 1951. Through the stimulus of the American Rheumatism Association and a small number of dedicated laymen, the Arthritis and Rheumatism Foundation was established and almost immediately leaders in Congress began the measures which led to the founding of the National Institute of Arthritis and Metabolic Diseases. The vision and effective leadership of these men has won the admiration and gratitude of us all . . .

I have spoken of the contrast between this decade and the period before it. Let me give a few examples. In 1951, the membership of the American Rheumatism Asso-

ciation, comprising the physicians of the country with major interest in arthritis, was 700; today it is 1,500, or more than doubled. In 1950 there were comprehensive research and teaching centers in four medical schools; today, through the training grants program of the National Institute of Arthritis and Metabolic Diseases there are 49 centers (but, may I add, close to half of the medical schools of the country still lack them). In 1950, perhaps two or three young men were being given a basic training in the scientific aspects of rheumatic diseases each year; in 1961 these opportunities are being given to more than 150.

Financial Support Rises

The importance of this is particularly great, for without the trained scientists to implement it, a research program must, of course, be futile. And one last example: as I mentioned earlier it has been estimated that in 1950 not more than \$300 thousand was available from all sources for research in rheumatic diseases; today, from the National Institute of Arthritis and Metabolic Diseases alone, this support amounts to almost nine million dollars.

With this brief general review as background I would like to devote the remainder of my allotted time to summarizing some of the important advances made during this decade in our knowledge of the rheumatic diseases and in our ability to cope with them.

Antibodies Useful

By 1951 several great advances had already been made. Through the discovery of the antibiotics, rheumatic fever had become preventable and arthritis caused by invasion of the pus-forming bacteria into the joints could be cured. Hence, during the past decade advances in these two fields have consisted of the previous gains and improvements in technics and results achieved.

In 1949 the discovery of cortisone gave tremendous impetus to re-

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search in arthritis and rheumatism and, indeed, was an important factor in the upsurge of public interest in these diseases which led to the founding of this Institute.

During the decade which we are celebrating, the early hope that cortisone was the solution to rheumatoid arthritis has proved unfounded, but advances of great significance have nevertheless resulted. As is often the case in science, this discovery has resulted in benefits unsuspected at the outset and, as Dr. Hench pointed out at the time with his characteristic wisdom, one of the greatest values to come from his discovery has derived from its use as a research tool. Better understanding of the process of inflammation, of the interrelationships of growth and repair, and of the structure and chemical nature of connective tissues has been gained; and at the clinical level, the corticosteroids have been found to be life-saving in diseases quite beyond the realm of arthritis and rheumatism.

Advances Knowledge

Since 1951, application of advanced methods such as those made possible by the electron microscope, X-ray diffraction and the ultracentrifuge have further increased knowledge of the molecular structure of connective tissue components. The fibroblast, the basic cell of connective tissue, has received much study. Great strides have been made in exploration of the chemical nature of connective tissue, and interest in this material which comprises the largest part of the human body has advanced remarkably . . .

Identifies Enzymes

Turning to advances in individual diseases, let us first consider gout. This has long been known to be related to a disturbance in the body's ability to deal with uric acid. Now, largely through the contributions of scientists working at the National Institute of Arthritis and Metabolic Diseases, the entire metabolic pathway of urate has been elucidated and each of a complex series of enzymes involved has been identified. The demonstration that urates can be derived from the simplest building blocks of the foods we eat has resulted in an easing of the rigid diets gouty subjects had to follow. The discovery of three new drugs—probenecid, zoxazolamine and sulfapyrazone—which increase the elimination of uric acid from the body has completely changed the outlook in this formerly extremely serious disease and has made it a relatively benign affliction.

The most important of the crippling diseases, rheumatoid arthri-

Sympathetic Nerve Terminal Recharge Effected by Catechol Amine Storage

National Heart Institute scientists have found that continued stimulation of cardiac sympathetic nerves partially depletes the heart of the catechol amines—epinephrine and norepinephrine—stored in the heart muscle. They have also found that the heart can replenish its supply of these amines by extracting them from the blood.

The studies, carried out by Drs. J. H. Siegel, J. P. Gilmore, and S. J. Sarnoff of NHI's Laboratory of Cardiovascular Physiology, indicate that this might well be an important mechanism by which the heart continuously recharges its sympathetic nerve endings.

Increases Heart Output

Epinephrine and norepinephrine, which increase heart output by accelerating heart rate and by enhancing the vigor of cardiac contraction, are released from the adrenal glands in response to stress, exercise, and other stimuli, and reach the heart via its blood supply.

They are also liberated from stores within the heart muscle itself when the heart's sympathetic nerves are stimulated. In either case, their effects on heart performance are the same.

The NHI studies showed that the extraction of catechol amines by the heart was primarily depend-

ent upon the quantities presented to it in the coronary blood supply and upon the amounts already stored in the heart.

Extraction apparently does not depend upon the ability of the heart to use the amines, since it continued after the main sympathetic nerve trunks had been cut, or after drugs that block the action of these amines had been administered. However, undegenerated nerve endings do appear essential.

Cannot Store Amines

Other NHI studies have shown that a completely denervated heart cannot store catechol amines, even though its response to administered amines is actually intensified. It appears likely that the nerve endings are the chief amine storage sites, and they may also play some important role in the absorptive mechanism.

The liberation of stored catechol amines by sympathetic stimulation was found to be proportional to the intensity of the stimulus. The hemodynamic response of the heart, in turn, was directly proportional to the quantities of amines released. These findings were reported at the American Physiological Society Meetings in Chicago and Palo Alto.

Challenges Imagination

The discovery of this substance in the blood of patients with rheumatoid arthritis has been a most stimulating challenge to the imagination. Its exact role is thus far not certain but there is considerable evidence that it is an antibody. That its presence is not essential to the development of the disease appears to be established because rheumatoid arthritis can develop in patients with a congenital inability to form gamma globulin. Hence it probably is a "byproduct" of the disease rather than the cause of it. Nevertheless, its unique occurrence in rheumatoid arthritis has great theoretical and practical importance. One of the most interesting developments has been the

finding of rheumatoid factor in the serum of asymptomatic blood relatives of rheumatoid arthritic patients. This indicates that heredity is involved in this disease, although other evidence shows that heredity is not the sole cause.

Methods Are Improved

For the clinician, various improved methods for detecting rheumatoid factors have been of great value in diagnosis and in the more precise definition of rheumatoid arthritis and of a number of diseases which resemble it. During the past decade, also, the physician has been aided in his care of patients by the development of new, improved corticosteroids, and more important by advances in knowledge of how to use them for the greatest relief consistent with safety. For the severely disabled patient with advanced disease new hope has been given by developments in the technics of physical medicine and rehabilitation and of orthopedic surgery.

I must emphasize an advance in the field of therapy mentioned also by Dr. Lamont-Havers, a moment ago, which though not perhaps dramatic, is of major significance. This is the development through the collaboration of the American Rheumatism Association, the National Institute of Ar-

NIMH Records Activity In Brain Stem Neurons

The activity of some aggregates of cells, located in the lower brain stem, which govern the vital autonomic function of respiration, is characterized by rhythmic electrical discharges. Little is known at present concerning the mechanism underlying this rhythmicity.

In an attempt to elucidate this properly, scientists at National Institute of Mental Health have examined the patterns of electrical discharge obtained from single cells mediating respiratory activity. Using microelectrodes and micropipette techniques, recordings have been obtained from the outside and the inside of single cells. The latter represent the first intracellular recordings obtained from neurons in the lower brain stem.

Discloses 3 Mechanisms

The results have disclosed three mechanisms which contribute to the production of the rhythmic discharge. These include a self-reexciting mechanism tending to maintain the activity, a self-limiting mechanism that determines the frequency and duration of the discharge, and an arrangement of reciprocal innervation, providing for the inhibition of one network when the other is active.

The results suggest that an increase in the firing threshold as action potentials progress may play a major part in periodically bringing the discharge to an end. These findings furnish an essential physiological baseline for the study of the effects of drugs on the behavior of single cells in the brain stem.

This work was done by Dr. G. C. Salmoiraghi of the NIMH's Clinical Neuropharmacology Research Center, and Dr. R. von Baumgarten, guest worker from the University of Gottingen, and reported in the *Journal of Neurophysiology*.

thritus and Metabolic Diseases, and the Arthritis and Rheumatism Foundation of a means of testing new drugs on a large scale basis through the cooperation of physicians in selected clinics all over the United States.

All too often in the past, many years have elapsed before a new drug could be accurately appraised as useful or not. And frequently, in the interim, inadequate reports based on only a few patients have confused the medical profession and the public and raised false hopes. At long last, through the newly developed program of cooperative clinical trials, truly adequate appraisals can be fairly rapidly made.

Finally let us consider the so-called collagen diseases; systemic (See *PROGRESS*, Page 5)

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lupus erythematosus, polyarteritis nodosa, dermatomyositis and scleroderma. These baffling and serious diseases have received particular attention during the past 10 years as a result of which extremely significant advances have been made. Among these has been the demonstration that each of them can present clinical, pathological and serological features which overlap with others of the group and with rheumatoid arthritis. This has been especially clear in the case of systemic lupus, which we may take as the prototype of the group for the purposes of this review.

Only a relatively few years ago, systemic lupus was considered a uniformly and rapidly fatal disease. Today this concept is completely changed. One reason for this change has been the wide use of a test for a lupus factor, somewhat analogous to the rheumatoid factor, by means of which mild cases are recognized today which formerly would have been undiagnosed.

Lives Are Normal

The second reason is that patients with the acute fulminating type of disease, which formerly was quickly fatal can now be saved by means of the corticosteroids, and these patients live relatively normal lives for many years. In addition to the corticosteroids, two drugs originally synthesized for the treatment of malaria have been found to be of benefit in lupus; and still more recent observations indicate that they also may prove helpful in rheumatoid arthritis.

Together with these diagnostic and therapeutic advances have gone theoretical and conceptual ones of great current interest. It has been discovered, for example, that the lupus factors have a capacity to react with various constituents of cells, or in other words that they behave like antibodies against proteins within the host.

Theory Is Provocative

This has led to a most provocative theory to explain the causation of the disease. It has been known for a great many years that if a protein foreign to a given animal species is injected into that animal his antibody forming cells will produce antibodies against it which will lead to his destruction. This, of course, is an important part of the body's defense against harmful agents. If, on the other hand, an animal is injected with its own tissue protein no antibodies are formed.

The currently exciting theory to which I have just referred suggests that for some as yet un-

known reason, certain tissue proteins of lupus patients become so altered that the body no longer recognizes them as its own, and forms antibodies against them. These, in turn, then react with specific proteins in the patient's own tissues, causing damage and death of cells. This is the theory of autoimmunity or autosensitivity. Certainly this theory has not yet been proven, but there is much evidence which supports it. By analogy because of the overlapping features

common to both systemic lupus and rheumatoid arthritis, as well as similarities between the lupus and rheumatoid factors, the same theory has recently been advanced to explain the causation of rheumatoid arthritis.

Theories alone are not enough, and this one may prove wrong as have others in the past, but at the moment there is reason to hope that we may be getting closer to the breakthrough which has so long been sought.

HARLEM IS SCENE OF VIRUS HUNT



"When you look for viruses, you find them," Dr. Robert J. Huebner, Chief of the Laboratory of Infectious Diseases, NIAID, told the audience gathered to hear him deliver a National Institutes of Health Lecture, "Viruses, Common Colds and Cancer," on March 15. This sequence of pictures shows Dr. Huebner and his associates looking for a virus—in this case the mouse polyoma (tumor) virus—in the Harlem area of New York City where the population density for both mice and men is high. (See NIH Record, Vol. XII, No. 7, Page 3.) Top left: Polyoma virus is recovered from a mouse-nesting area in kitchen cabinet of a Harlem apartment. Top right: Dr. Huebner (in striped shirt) and Dr. Conrad Yunker, an entomologist now on the staff of the Middle America Research Unit, an interagency field laboratory in the Canal Zone sponsored by NIAID and the Walter Reed Army Institute of Research, examine nesting materials for mouse ectoparasites. Above: A Harlem street crowd gathers around the research field team.

Monkey Lesions Identify Virus Fatal to Man

Virus-B is one of the 40-odd simian viruses that have been encountered in monkeys and monkey kidney tissue cultures. Little is known of the pathogenicity of these animal viruses, except Virus-B which, although it generally causes only a mild illness in monkeys, is capable of producing fatal encephalitis in humans. Sixteen such infections, 14 of them fatal, have occurred since 1937 in laboratories in England, Canada, and the U. S. among laboratory personnel engaged in research involving monkeys and monkey tissue material. It is therefore essential that extreme caution be exercised when handling this potentially infected material.

Requires Isolation

In the Division of Biologics Standards laboratories, virus isolation procedures are required on the central nervous system (CNS) tissues of all monkeys showing histologic lesions, that are used for safety testing of virus vaccines.

In a study recently reported in the *American Journal of Pathology*, DBS Drs. Ruth L. Kirschstein, Gerald L. van Hoosier, and C. P. Li have described the lesions found in cortisone-treated monkeys after intraspinal, intrathalamic, and intramuscular inoculation of inactivated poliomyelitis vaccine. In contrast to the lesions in naturally occurring Virus-B infection in monkeys, these lesions are severe and extensive throughout the CNS and bear a marked similarity to those found in fatal human cases of Virus-B infection.

Supports Belief

The DBS investigators believe that the lesions are related to reactivation of latent Virus-B by the intraspinal inoculation of vaccine and the use of cortisone. The presence of neutralizing antibodies to Virus-B in the serums of two of the monkeys under study by the investigators before inoculation of the vaccine supports this belief, and confirms the findings of Sabin and others that apparently healthy monkeys may have variable levels of neutralizing antibodies to Virus-B. Moreover, isolation of this virus from normal kidney cell cultures has occurred on several occasions, indicating that this virus can remain latent in monkey tissues for long periods of time.

The recognition by pathologists of these lesions as Virus-B infection will make it possible to warn virologists of the danger so that every precaution can be used in handling the infected tissues during attempts at virus isolation.

Chromium Seen Active In Normal Utilization Of Glucose in Rats

Previous work by Drs. Klaus Schwarz and Walter Mertz of the Laboratory of Nutrition and Endocrinology, National Institute of Arthritis and Metabolic Diseases, identified chromium (III) as the active ingredient of the glucose tolerance factor (GTF), a dietary agent necessary in rats for the normal utilization of glucose. Rats raised on GTF-deficient diets were found to have a reduced rate of removal of intravenously injected glucose. However, when exceedingly small amounts of active chromium were given to the animals, the removal rate was restored to the normal control value.

Defines Action Site

Since intravenous glucose tolerance is affected by many regulatory mechanisms in the intact animal, the NIAMD scientists have now completed *in vitro* studies with epididymal fat tissue to define the site of action of GTF more closely. These tissue preparations, of approximately 100 mg. each, were taken from animals on GTF-deficient and supplemented diets respectively.

The NIAMD studies have shown that chromium causes an 80-100 percent increase of glucose uptake by fat tissue from GTF-deficient rats. This increase was seen only in the presence of insulin. An optimum effect was obtained when as little as 1/100 microgram of chromium was supplied, along with minute amounts of insulin.

Identical conclusions could be reached from studies in which radioactively-label glucose was used for measuring the amount of glucose converted into fat. (A major metabolic pathway for the excess glucose administered during the course of a glucose tolerance test is conversion into fat.) Amounts of chromium found to be effective are of an order of magnitude similar to those present in nutrients and in body tissues.

Opens Questions

This direct evidence of chromium's role in glucose utilization opens up a number of interesting questions. The data available from the studies give no indication as to the site of action of chromium in the metabolic process, but they show that the chromium effect depends on the presence of insulin. The investigators believe it is possible, *mutatis mutandis*, that insulin depends for its action on the presence of very small amounts of chromium. The *in vitro* work was reported by Drs. Mertz, Edward E. Roginski and Schwarz in the *Journal of Biological Chemistry*.

Eaton Agent Seen Associated With Nonbacterial Pneumonia

The etiology of nonbacterial pneumonia has been a subject of considerable controversy among microbiologists for the past 20 years. Much interest has centered about the agent (taxonomic status still undetermined) recovered by Dr. Monroe D. Eaton and his colleagues in 1944 from patients with atypical pneumonia.

Cooperates With Navy

A cooperative epidemiologic investigation, completed recently by Dr. Robert M. Chanock of the National Institute of Allergy and Infectious Diseases and a group of Naval scientists, among recruits at the Parris Island Marine Training Center, offers the most complete evidence to date associating the Eaton agent with atypical pneumonia. The report appears in the *Journal of the American Medical Association*.

Over a six-month period the investigators detected Eaton agent infection in 161 of 238 (68 percent) patients with atypical pneumonia. The scientists were able to recover the agent from 14 of 17 pneumonia patients who developed fluorescent stainable antibody during convalescence.

Rate Is Lower

Infection as revealed by serologic techniques occurred at a significantly lower rate (six percent) among patients without respiratory illness, thus diminishing the possibility of a fortuitous association of the agent with disease.

The conditions at Parris Island during the study interval provided the scientists an unusual oppor-

tunity to investigate the ecology of Eaton agent infection as measured by antibody titer.

Activity of influenza and adenoviruses was limited, while the incidence of Eaton virus was high, with 44 of every 100 recruits infected during the three-month training interval. For those without detectable Eaton antibody on entering the service, the risk of infection was 53 percent. The risk of developing an Eaton-positive pneumonia was also high—1.5 percent.

Infections Asymptomatic

From these data, it would appear that one in 30 infections resulted in a clinically apparent pneumonia. Although Eaton infection was also associated with febrile respiratory illness in which pneumonia was not evident, the majority of infections appeared to be asymptomatic.

Although infection with this agent is not rapidly transmitted as is influenza, the Eaton agent was found to be widely disseminated throughout the camp. In certain of the platoons it remained for at least eight to nine weeks, as evidenced by the occurrence of serologically positive pneumonia.

Conclusions Cited

The scientists concluded that the combined attributes of poor spreading ability, together with a long incubation period, are ideally suited to maintain such an agent for a long interval in an ever-changing recruit population.

New Technic Simplifies Molecular Measurement

Calculation of the molecular weight of large molecules is usually based on data obtained from studies of the molecule in an "analytical" ultracentrifuge. This apparatus is complex and expensive, and necessitates the use of pure substances only.

Recently, Drs. Robert Martin and Bruce N. Ames of National Institute of Arthritis and Metabolic Diseases' Laboratory of Biochemistry and Metabolism have developed a method which utilizes the smaller, relatively inexpensive, "preparative" ultracentrifuge and one which is applicable to any kind of enzymes in protein mixtures. The technic is a modification of one previously used for viruses and subcellular particles.

Using their technic, the scientists fill a centrifuge tube with a solution of sucrose and then "layer" the mixture protein solution on top of this sucrose gradient. During centrifugation each enzyme present

in the layer moves at a characteristic rate through the gradient depending upon its molecular weight, and when the apparatus is stopped the enzymes are separated into zones at different levels in the gradient. A hole is then punched in the bottom of the centrifuge tube and the solution is fractionated by collecting drops.

Permits Analysis

These fractions permit analysis for any of a variety of properties, including enzymatic activity, radioactivity, or chemical properties. Thus, a particular biological material in a crude multi-component mixture may be localized by one of its physical properties.

The accuracy of the simple ultracentrifugation method is within 5 percent of the standard analytical techniques and has the advantage of utilizing much smaller volumes of material and may be used for enzyme purification.

In addition, it may be a valuable research tool for studying the properties of enzymes, and is now being

Strain of Human Cells Grows for First Time In Serum-Free Medium

Human cell lines growing in serum-free media are expected to be particularly useful in studies of the role of viruses in human neoplasms, since even small amounts of animal or human serum may contain inhibitors that make it impossible to demonstrate the presence of a virus.

A collaborative study of the growth of human skin in tissue culture was inaugurated about eight years ago by scientists now of the National Cancer Institute's Laboratory of Viral Oncology and colleagues of the Tissue Bank of the National Naval Medical Center. These investigators reported in 1956 that a strain of human epithelial cells had been isolated and maintained in a medium consisting of human serum, filtered chick embryo extract, and saline.

Adapts to Medium

They now report that cells from this culture system have been adapted to grow rapidly in an entirely chemically defined, protein-free medium. This is the first time human cells have been adapted to grow in this synthetic medium known as NCTC 109.

The task of adapting cells to the medium required a period of two years, in which the amount of human serum added to the nutrient was gradually reduced. At the time the present report was prepared monolayer cultures of cells, designated strain NCTC 3075, had been maintained in NCTC 109 for 22 months. Fluids were changed three times a week, and subcultures were made at weekly intervals.

Multiply Rapidly

The authors report that cells of the same strain also multiplied rapidly while growing suspended in the synthetic nutrient fluid in shaking flasks. After some modifications had been made in the original procedure, these constantly agitated cultures yielded larger numbers of cells than the static type.

The present report appears in a recent issue of the *American Journal of Hygiene*. The authors are Drs. Paul C. Bakken and Robert E. Stevenson of the Naval Medical Center, and Drs. Virginia J. Evans and Wilton R. Earle of the NCI. Dr. Earle heads the group which developed medium NCTC 109 and the agitated fluid culture method.

used in an attempt to establish whether there is a correlation between the size of a gene and the size of a protein synthesized by the gene. Details of the new analytical technic were reported in the *Journal of Biological Chemistry*.

PERSONNEL TO PERSON

FOR THE PAST YEAR, the Personnel Management Branch has studied its organization in an attempt to improve personnel services to the program areas.

This study has resulted in a reorganization of the Branch and the establishment of a Personnel Operations Section. This section, headed by Charles H. Jenkins, Jr., replaces the former Operations Units.

In addition to Mr. Jenkins, the section includes eleven Personnel Operations Officers and their assistants. The Operations Officers have been assigned to the various Institutes and Divisions.

Services Are Varied

The Personnel Operations Officer will provide a full range of services, including recruitment, placement, position classification, employee counseling, training, and management advisory functions on personnel matters.

Also, he will direct the work of the Personnel Representatives assigned to his staff. In essence, the Personnel Operations Officer will assume many of the responsibilities of a personnel director for the Institute or Division which he serves.

Ready to Assist

Your Personnel Operations Officer and his staff are anxious to assist you with your personnel problems. The Officers and the Institutes and Divisions to which they are assigned are as follows: Michael Wiencek, CC; Rosemary Williams, NCI; Phyllis Hannah, NIMH (temporarily detailed from Employment Section); Herbert Stickney, NINDB (acting); June Ardizzone, NIAMD; William Moon, NIAID; Virginia Porter, NHI; Donald Smith, DBS-NIDR; Jane Sundelof, OAM, OD (acting); Ruby Nienaber, DRS (acting); Addie Molster, DRG-DGMS.

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PERFORMANCE RATINGS

The Employee Relations and Services Section points out that the annual performance ratings for NIH employees are due March 31.

Again this year, the reporting and recording of performance ratings will be simplified by relieving supervisors of the necessity for submitting separate rating reports for each employee.

Supervisors will complete a form certifying the performance level of the entire group. Employees will be notified of the rating. Only individual Outstanding and Unsatisfactory ratings will require special reports.

Further details are available from your Personnel Representative.

Cafeteria Clientele Discover Machines Provide Hot Food, Cold Food and Cash



Top, left to right: "Look! There's the lasagna!" "This seems to work all right." "Pic—in the sky?" Lower, left to right: "Change, please!" "More fun than Las Vegas!" "Well, whaddayaknow!"—Candid camera photos by Jerry Hecht.

By Elsie Fahrenthold

An impressive array of automatic food dispensers recently installed in the CC cafeteria are attracting widespread consumer interest and increased patronage.

The self-service equipment supplements the service provided by the cafeteria staff and makes food available around the clock seven days a week.

As evident from the accompanying candid camera sequence taken on "opening day," March 7, everybody enjoyed the "Las Vegas" atmosphere as coins clicked into the 15 machines.

Best of all, the patrons found a well-balanced menu offered by these mechanical waitresses.

Specialty machines provide hot chili con carne, beef stew, lasagna, and ravioli. Cold items include fresh fruit cup, fruit salad, and assorted flavors of jello, pastry, and ice cream.

Prices Are Reasonable

For 20c you can have ready-to-eat hot soup with a package of crackers. Two hot-sandwich machines dispense roast beef, cheeseburgers, hamburgers, ham and egg, hot dogs, and "hoagies," otherwise known as "submarines." The prices of these range from 25c to 35c.

Cold sandwiches are also available in a surprising variety.

Hot drink machines offer coffee, tea, and chocolate for 10c. The coffee is freshly brewed and served with cream from the machine's miniature refrigerator. Extra cream and sugar are forthcoming at the press of a button.

Cold drinks include milk, coke, grape, orange. The fruit drinks are served in a 9-oz. cup with crushed

ice, and come carbonated or plain.

One of the most popular machines, however, serves neither food nor drink. It is a \$1 bill-changer. Insert a bill, push the plunger, and out pop two quarters, six nickels, and two dimes.

Rejects Bogus Bills

More alert than many humans, this machine rejects counterfeit. And it prefers greenbacks that are not too new or elderly. A brand new slippery bill should be crumpled just a bit, and a badly worn or torn bill might not make the grade.

Also, the machine does not recognize bills of higher denomination, so be sure to ask one of the attendants, Gloria Hamlett or Cleo Copeland, to change your big bills.

These girls will also make refunds if the machines or the customers make a mistake.

In addition, there are two coin changers, although most of the food dispensers make their own change.

The G. B. Macke Corporation of Washington owns and operates the machines. Its food quality and prices passed rigid inspection prior to the award of contract.

This company operates similar automats in the White House and 40 other locations in the D. C. area.

"Macke machines operate 365¼ days per year," according to Davis Santer, Service Superintendent of the Automatic Cafeteria Division. The one-fourth day, he says, takes care of leap year.

Patients' Reading Night April 5 Will Feature Writings of Sandburg

Carl Sandburg and his books will be the topic of discussion at the next CC Patients' Reading Night, at 7 p.m. on April 5 in the 14th floor Assembly Hall.

The Sandburg evening will be conducted by Dr. and Mrs. William T. Braye. Dr. Braye is Assistant Chief of the Recruitment Branch, Division of Personnel, PHS. Mrs. Braye has worked as illustrator and editor with Mr. Sandburg on many of his books.

Now known as "Booklovers' Get-Together," the Reading Night programs are held on alternate Wednesdays.

NIH Personnel Participate

Speakers in February and March included three from NIH. Roy Perry, Chief, Photographic Section, DRS, read from several humorous books; Daniel G. Rice, Public Information Section, ORI, talked about writing short stories; and Mildred E. Sargent, Public Information Section, ORI, discussed poetry.

Mrs. Frank French, a member of the PHS Officers Wives' Committee assisting with the programs, discussed "Life in Garden, Field, and Forest."

Patients, their visitors, and all NIH personnel are invited to attend the programs.

FEDERATION

(Continued from Page 1)

day evening, April 11, at which prominent scientists will discuss "Approaches in Pathology to Problems of Disease."

In addition, the delegates will attend symposia and inter-society sessions to discuss current fundamental problems in diseases yet to be conquered.

An industrial and scientific exhibit to be held in connection with the meeting will feature some 240 displays of the latest instruments applicable to research in experimental biology. Among the exhibitors will be the French Atomic Energy Commission.

The Federation, of which more than 30 members have been Nobel Prize winners, consists of the American Physiology Society, the American Society of Biological Chemists, the American Society for Pharmacology and Experimental Therapeutics, the American Society for Experimental Pathology, the American Institute of Nutrition, and the American Association of Immunologists.

Dr. Floyd S. Daft, Director of NIAMD, is President of the American Institute of Nutrition.

ANNIVERSARY

(Continued from Page 1)

R. W. Lamont-Havers of the Arthritis and Rheumatism Foundation, and a panel of five distinguished scientists including Arthur Kornberg, Nobel prize winner and former Chief of the Enzyme and Metabolism Section, NIAMD, also addressed the gathering.

Secretary Ribicoff called research "the pacemaker of progress" and remarked that it was most appropriate that the speaking program joined the "leading representatives of two interlocking worlds: the worlds of biological science and public service.

"The state of the nation's health at any given time," he said, "is a result of interaction between these forces; those who seek new knowl-



WAVING A COPY of the slim volume known as Garrod's Lectures, which describes the six metabolic diseases known in 1908, Dr. DeWitt Stetten, NIAMD Associate Director in Charge of Research, compares it with the 1,500-page volume, *The Metabolic Basis of Inherited Disease*, published last year. "We believe it is no accident," he said, "that two of the three authors (of the latter volume), as well as 15 of the contributing authors, served for considerable periods of years on the staff of the NIH."

edge, and those who make possible its effective application."

"The nation's health," he said, "can advance no faster than the knowledge on which it depends. As a nation, it is imperative that we narrow the gap between what is known and what is done to serve the health of our people . . ."

Dr. Terry, who said he felt much like a recent graduate returning to his old alma mater, spoke of the importance of reviewing for the public the accomplishments of the past ten years.

"It is important because the public, which has so great a share in all that we are doing and hope to do, now has the opportunity to hear directly what has been accomplished in the fight against disease and to preview the prospects for the future," he said.

Dr. Lamont-Havers cited the importance of the mobilization of public opinion "favorable to the control and conquest of any diseases" and praised the NIAMD for

Excess Property Utilization Provides New Parking Spaces on Reservation

The frustrated NIH employee looking for a parking space in construction-torn areas on the reservation can thank the effective utilization of excess property for 50 new spaces—and more to come.

The new spaces are the result of a recent transfer of 30 tons of excess aluminum airstrip landing mats from the Letterkenny Ordnance Depot at Chambersburg, Pa., obtained through the Federal Government Property Utilization Program.

The only cost to NIH for the airstrip mats—which will provide an estimated 150 parking spaces—was the freight transportation by two

flat-bed trailer trucks, paid by the Plant Engineering Branch, DRS.

The mats were located by a property utilization officer of the Supply Management Branch, OD, while on a routine trip to Chambersburg on the lookout for excess property suitable for NIH use.

The 50 new parking spaces are located along the west side of Stone House Drive where recently there was only sodden turf and mud.

Each space consists of 16 of the metal strips, 15½ inches by 10 feet, linked together to form a mat 10 feet wide and about 21 feet long, easily accommodating one automobile.

its policies and actions which have established cordial ties with both voluntary and professional organizations concerned with the Institute's particular areas of interest.

Senator Hill cited examples of accomplishments of the Institute and Institute grantees in the last decade and stressed basic research.

"May I say that while these accomplishments are indeed considerable," he told the group, "I think it's important to emphasize that one of the greatest contributions has been the development and accumulation of basic knowledge of human metabolism.

"I submit that in no (other) field of human diseases is there a more desperate need for knowledge of fundamental workings of the human organism," he said.

In the "Report to the Nation" segment of the program, Drs. Currier McEwen, George W. Thorn, Franz J. Ingelfinger, DeWitt Stetten, Jr., and Dr. Kornberg reviewed advances in five areas: arthritis, diabetes and endocrine diseases, gastroenterology, metabolic and molecular diseases, metabolism and enzymology.

At a formal dinner which capped the day's festivities, Dr. Floyd S. Daft, Director of NIAMD, was



SENATOR LISTER HILL of Alabama, whose suggestion led to the NIAMD anniversary observance, addresses the audience of 500 in the CC auditorium. "We have only to look about us to see that we have made but a beginning in the total offensive against arthritis and rheumatic diseases," he said.

presented a silver plaque by the American Rheumatism Association and the Arthritis and Rheumatism Foundation "in recognition of his constant devotion to, and effective support of, a national program of research, training and education in arthritis and connective tissue diseases."

Mobile X-ray Unit to Return to NIH March 30-31

The Mobile Unit of the Montgomery County Tuberculosis and Heart Association will be at NIH again on Thursday and Friday, March 30 and 31, for the purpose of completing chest X-ray examinations of NIH employees.

In preparation for this and the prior visit of the Mobile Unit here on March 2 and 3, cards were distributed to employees by the Employee Health Service, with the request that they be returned by those wishing the examination.

These cards were returned by approximately 2,000 employees who were then notified of the day of their scheduled examination.

Of the 1,000 scheduled for examination on March 2 and 3, approximately 400 did not appear, the Health Service reports, and many of these have phoned to ask if they may report on March 30 and 31.

The answer to this, EHS says, is yes. All they have to do is visit the Mobile Unit on March 30 or 31. The Unit is prepared to X-ray the 1,000 scheduled for those days, plus the 400 or so who failed to get there earlier this month.

The Mobile Unit will be centrally parked, as before, near the loading platform at the rear of Building 1. The hours for examination on March 30 are 9 a.m. to 5 p.m., and on March 31, 8 a.m. to 4 p.m.

3rd Annual Art Exhibit For NIH and Families To Open on May 14

The Third Annual NIH Art Exhibit, sponsored by R&W, will open here May 14 and continue through June 11.

Entries will be accepted and prizes awarded in each of three media—paintings, sculpture, and graphic arts. The exhibit will be shown in the east lobby of the Clinical Center.

Judges of the art works will be William Calfee, Lecturer in the Art Department of American University; Robert Gates, Associate Professor of Art, American University; and Don Turano, a sculptor affiliated with the Corcoran Gallery of Art.

Limit Is 3 Entries

The exhibit is open to NIH employees and their immediate families. Applicants must be over 16 years of age and may enter as many as three original works of art. The fee is one dollar per entry.

Exhibit entries will be received in the auditorium of the Clinical Center on May 4 from 4:30 to 7:00 p.m.

Entry blanks may be obtained from the R&W office, Bldg. 16-A, Rm. 202, Ext. 3597.

The R&W exhibit committee includes John Reeder, OD; Sadie Fishman, NIMH; Inez Demonet, DRS; and Lyn Meyer, NINDB.

Reorganization of ORI Adds a Third Section

Dr. Shannon has approved a reorganization of the Office of Research Information, establishing a third section and changing the name of one of the two existing sections.

The new section has been designated the Program Development Section. Its chief has not yet been appointed.

Name Changed

The name of the Scientific Information Section, headed by Jane Stafford, has been changed to Scientific Reports Section.

The Public Information Section, headed by Clifford F. Johnson prior to his appointment as Chief of the Office of Research Information, is directed by Judson Hardy, whose appointment was effective February 27.

The Office of Research Information is a staff organization within the Office of the Director, NIH. Its reorganization was approved March 3.

Functions of the three sections were set forth in a statement accompanying the reorganization announcement.