Dr. Bruce Is Appointed Director of DPHPE

Dr. Harry W. Bruce, Jr. has been appointed Director of the new Division of Physician and Health Professions Education, BHME.

He has been a PHS commissioned officer since 1954 and was Acting Director of the Division since its establishment in October 1970.

The Division provides financial assistance to health professions institutions and to their students in an effort to alleviate the health manpower shortage and meet the Nation's health care needs.

Responsibilities Noted

Dr. Bruce is responsible for directing Federal activities concerned with all aspects of education of the Nation's physicians, osteopaths, dentists, optometrists, pharmacists, podiatrists, and veterinarians.

These activities include administration of institutional grants to increase the number of health professionals, and construction grants for educational facilities.

Dr. Bruce is a graduate of Carson Newman College, and the University of Tennessee.

(See DR. BRUCE, Page 6)

Scientists Suggest Autoimmunity Causes Sympathetic Involvement of 'Other' Eye

Evidence that may explain why severe injury to one eye will, in some persons, cause a serious inflammation to develop in the other eye has been presented by National Eye Institute scientists.

5-Day FASEB Meeting To Be Held in Chicago

Registrations for the 56th Annual Meeting of the Federation of American Societies for Experimental Biology (FASEB) will be accepted through Friday, March 19.

The meeting is to be held in Chicago on April 12-17.

Dr. Marshall W. Nirenberg, National Heart and Lung Institute and NIH's Nobel Laureate, will address the FASEB General Session on Tuesday, April 13, at 8 p.m., in the International Ballroom of the Conrad Hilton Hotel.

Dr. Nirenberg will talk on "Molecular Neurobiology—Some Approaches." Dr. Stanford Moore, FASEB President, will preside at this session.

Newborn Opossum Considered a 'Natural' For Many Areas of Biomedical Research

Half-formed, with undeveloped stubs for hind legs, a brain only partially complete, and many of its other organs just beginning to grow, the baby of an experimental animal emerges from its mother's birth canal. Barely ½-inch long and 5/1,000 ounce in weight, it wriggles blindly amid the forest of hair on its mother's belly, searching for a nipple the size of a pin head.

Finding the nipple, it begins to nurse. Within a few days, its jaws fuse so the infant animal cannot release the nipple.

In this state, protected from the outer world by a warm, moist envelope of its mother's skin, it completes, over a period of 2½ months, much of the growth which in other animals takes place in the womb.

This animal, a product not of science fiction but of an 80-million-year-old experiment of nature, is better known as Didelphys marsupialis but is better known as the "possum."

Nestled in the mother's pouch for an additional 3½ months, the opossum will grow to a size of a pin head before it is released. It then spends another 6 months of growth, slowly curving the corner of the mouth to its own teeth.

In studies being conducted by Dr. William Jurgelsky at the National Institute of Environmental Health Sciences, Research Triangle Park, N.C., this "abortion which has learned to survive outside the womb" is being developed as a pow

(See OPOSSUM, Page 7)

Dr. David Rall to Assume Position as NIEHS Head In North Carolina Soon

Dr. David P. Rall has been selected to be Director of the National Institute of Environmental Health Sciences in Research Triangle Park, N.C.

Dr. Rall is associate scientific director of the National Cancer Institute, supervising experimental therapeutic programs.

He succeeds Dr. Paul Kotin, Director of NIEHS since its establishment in 1966. Dr. Kotin has accepted a position as Vice President for Health Sciences of Temple University.

Lauded by Dr. Marston

"Dr. Rall has the special scientific and managerial qualifications needed for the direction of research programs in the environmental health sciences," said Dr. Robert Q. Marston, NIH Director.

The position requires not only that the NIEHS Director have the ability to manage an active in-house research program, but also calls for him to play a strong role in the training of specialists in environmental health, Dr. Marston explained.

Also, the Director must identify research programs throughout the country that are worthy of strong encouragement through NIH financial support.

(See DR. RALL, Page 4)
Additional Psychiatrists On Staff Enable EHS
To Offer More Counsel

The addition of four part-time psychiatrists to the staff of the Employee Health Service, making psychiatric counseling available 5 days a week, has been announced by Dr. John M. Lynch, EHS chief.

Previously, National Institute of Mental Health psychiatrists in administrative positions offered counseling in their free time to maintain direct contact with patients.

Counseling Available

This service had made the equivalent of 2 days of counseling service available to employees.

The Employee Health Service now offers group or individual counseling in its Clinical Office Center.

In addition, psychiatrists are accessible for consultation with management through individual supervisors, administrators, and personnel officers, as well as through seminars for supervisors to assist them in understanding employee problems.

Sometimes problems which are not work related develop at home—a family breaking up, a son or daughter on drugs or dropping out of school, a sudden death in the family—and the effects of these problems carry over to and interfere with the work situation, Dr. Lynch noted.

May Help Employee Function

“Crisis intervention” may help the employee cope with his problem, enabling him to function effectively on the job again. Counseling is generally short-term, but should the employee require further assistance, the Employee Health Service can refer him to the psychiatrist or clinic best qualified to deal with his particular problem.

Organization for Women

To Meet April 1 at CC

The NIH Organization for Women will hold its first general meeting in the Jack Masur Auditorium, Clinical Center, Thursday, April 1, at 12 noon.

Guest speaker will be Dr. Estelle R. Ramey, professor of Physiology at Georgetown University Medical School.

Dr. Ramey attracted attention last year when she challenged Dr. Edgar Berman’s statement that physiological differences between men and women make women unfit for top-level jobs.

Her topic will be “Sex Hormones, Wage Board, and GS Rank.” She will discuss job performance capabilities of men and women and how to change attitudes which may be based on myths.

All NIH employees are invited to attend.

C.O.’s Leaving Active Duty
To Meet March 17 at CC

A special meeting for NIH Commissioned Officers separating from active duty during June or July will be held tomorrow, Wednesday, March 17, at 3 p.m. in the Jack Masur Auditorium, Clinical Center.

Officers will be informed about separation procedures, travel entitlements, shipment of household effects, and veteran benefits by the Commissioned Officer Unit, Office of Personnel Management.

Administrative personnel concerned with separation procedures for Commissioned Officers may also attend.

Robert L. Stewart Dies;
Was Personnel Specialist

Robert LeRoy Stewart, 42, an employee in the Office of Personnel Management since 1966, died on March 4 at his Bethesda residence.

During his career in personnel, he was assigned to several institute and division Personnel Offices, and for the past year he was detailed to the Employee Relations and Recognition Branch.

One of his contributions to the work of that office was the design of a Retirement Annuity Form, NIH 1680, which was adopted for agency-wide use. He received an award for this suggestion on Oct. 9, 1970.

Mr. Stewart received a B.S. degree from the University of Maryland in 1951. He then enlaced in the Air Force, serving for 4 years. He was a member of the Society for Personnel Administration.
Are Parking Permit Problems Puzzling? Employees May Find the Answers Here

Tinted windshield or damaged parking permit—the answer to questions about parking problems may be found below.

Q. What would I do if my new permit is damaged when I try to put it on the windshield?

A. Return the pieces to Bldg. 31, Room BIC-11, and you will receive a replacement.

Q. Why can't we cut the NIH insignia off and just display the number?

A. The permit must be displayed as issued—the insignia is part of the official identification. Cutting off the permit renders it invalid, and regulations require display of a valid permit.

Windshield Tinted

Q. What if we have tinted windshields and the permit is difficult to see?

A. This possibility was considered when the permit was designed. If properly placed, the special policeman can read it.

Q. Why can't we place the permit in a pocket on the windshield and display it only when the vehicle is parked on the reservation?

A. The use of a pocket would allow transfer of permits to unauthorized vehicles. Also, the permit could be easily stolen so it must be affixed to the windshield as directed.

Placement of the permit has been cleared with motor vehicle authorities of the various jurisdictions in the area. Placing the permit in any other position might result in violation of local or state laws.

500 Vacant Parking Places

Q. What if I can't find a legal place to park?

A. A daily check reveals an average of 500 vacant parking spaces. Although there are not enough spaces adjacent to all buildings, parking lots are available. In the near future, the multilevel parking facility located off Lincoln Drive immediately south of Bldg. 36 will be open. It will accommodate over 800 vehicles.

Dr. John A. Biles Joins Health Advisory Council

Dr. Robert Q. Marston, NIH Director, has announced the appointment of Dr. John A. Biles, Dean of the School of Pharmacy, University of Southern California at Los Angeles, to the National Advisory Council on Education for the Health Professions.

The council advises NIH on program policies and grant applications related to construction of educational facilities for the health professions.

The construction grants program is administered by the Division of Physician and Health Professions Education, BHME.

Enes Broadway (I), National Library of Medicine, Administrative Services Section, receives a Special Achievement Award from Dr. G. Burroughs Mider, NLM Deputy Director. Mr. Broadway, with NLM over 20 years, received the cash prize for his excellent work.

OTHER EYE

(Continued from Page 1)

were cultured with uveal and retinal tissue obtained from an eye bank.

In 7 of the 8 cultures the lymphocytes increased in size and underwent other changes known as blast transformation, indicating that an immunologic response had occurred.

Following transformation, these cells, now called lymphoblasts, probably from antibody-producing cells which in sympathetic ophthalmia presumably attack healthy ocular tissue.

Lymphocytes from the blood of a control group of patients with eye disease, but without sympathetic ophthalmia and of normal volunteers were not significantly transformed when cultured with eye tissue.

The reaction appears to be tissue-specific because control cultures containing skeletal muscle antigens fail to evoke a significant transforming response.

These results indicate that autoreactivity may play an important role in sympathetic ophthalmia, although it may not be the sole cause of this condition, according to Dr. Wong.

He presented these findings to the 23rd Annual Wills Eye Hospital Clinical Conference in Philadelphia last month.

History of Med. Society Meets Tonight (Tues., Mar. 16) at NLM

The Washington Society for the History of Medicine will meet this evening (Tuesday, March 16) at 8 p.m., in the Billings Auditorium of the National Library of Medicine.

Dr. H. V. Wyatt will talk on "Avery Before the Double Helix." Dr. Wyatt is a visiting scientist at the National Cancer Institute.

Dr. Henry P. Dowling will discuss "The Rise and Fall of the Pronocytin Control Programs." He is Professor of Medicine, Emeritus, at the University of Illinois School of Medicine.

The meeting is open to visitors.

NIH Sailing Association to Show Film of 'Flying Scott,' Mar. 30

The NIH Sailing Association, sponsored by the R&W Association, will show a film of the Flying Scott sloop at 8 p.m., Tuesday, March 30, in the Jack Masur Auditorium, Clinical Center.

The fourth concert in the 1970-71 Chamber Music Series will be held at 4 p.m., Saturday, March 27, in the Jack Masur Auditorium, Clinical Center.

The concerts are presented by the Foundation for Advanced Education in the Sciences.

James and Ruth Laredo, violin and piano duo, will play sonatas by Bach, Schuman, Debussy, and Franck.

Admission is by ticket only.

Violin and Piano Team Offers Chamber Music Concert at CC

Transformed human lymphocyte, called a "lymphoblast," indicates that an immune response has occurred.

Kent A. Smith has been named executive officer, National Library of Medicine. Formerly, he was with DRR in the same post. Mr. Smith received a B.A. degree from Robert College, and an M.P.A. degree from Cornell University's Graduate School for Business and Public Administration.

Booklet Tells Progress Of Hormone Research

A booklet and an exhibit on Human Growth Hormone (HGH) has been prepared by the National Institute of Arthritis and Metabolic Diseases in collaboration with the National Pituitary Agency. The agency, which operates under a contract from NIAMD, collects and distributes HGH for clinical and basic research.

Both booklet and exhibit, which show the research progress of HGH, were on display at the recent meeting of the American Association of Pathologists and Bacteriologists in Montreal.

Among the subjects covered in the booklet are a history of dwarfism and other disorders associated with short stature, and the biochemistry and physiology of HGH.

The hormone, extracted from human pituitary glands obtained at autopsy, is purified and given to man pituitary glands obtained at age of 500 vacant parking spaces.

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The meeting is open to visitors.
Carpentry Shop Personnel Whittle Wood Into Vital Equipment for Scientific Labs

The delicate operation of adjusting a table saw that will soon be used to cut down wood to size is discussed by (l to r) Wilbert Drecktrah, Stanley Allen, Hubert Whitney, and Monette Ross.

A sign on the bulletin board hanging near Monette Ross's desk says “Why Is There Never Enough Time To Do It Right, But Always Enough Time To Do It Over?”

The proverb is certainly not applicable to the men who work in the section headed by Mr. Ross, chief of the Shop Section, Plant Engineering Branch, Office of Engineering Services.

That section provides a great many of the services that make the wheels run smoothly at NIH. It includes facilities for painting, electrical repairs, and carpentry; it is staffed by pros and also apprentices with ambition and talent in their own particular field.

Take the carpentry shop—to an untrained eye it looks large enough to house a baseball diamond. The sun pours through the windows, there is remarkably little litter for all the work that's going on—just some shavings on the floor. The buzzing of the saws adds a cheerful noise.

Process Explained

Much of the equipment used in scientists' laboratories is made in this room.

Mr. Ross, who has been at NIH since 1958, explained the process from the time a request comes through from a scientist in an Institute to the start of the job in the carpentry shop.

A PEB planner and estimator does just what his title implies.

“He plans the job, estimates the cost, suggests the design and draws a sketch of the project,” Mr. Ross said.

He talks to the scientist requesting the article, and when the specifications are settled the facts are sent to the Institute's administrative officer. Then they talk finance; most of the time there is a meeting of minds.

“Occasionally, an A.O. might think the estimate is more than the job is worth, but that doesn't happen very often,” Mr. Ross said.

From here on the carpentry shop takes over. There are 30 carpenters and 6 cabinet makers. They prepare the laboratories, install equipment, and construct special furnishings, including animal operating tables and holding devices.

The cabinet makers build furniture such as bookcases and cabinets, but one of their more repetitive tasks is the building of bench (counter) tops for chemical experiments.

Mr. Ross singled out Alfred Broadhurst, a cabinet maker-trainee who was sanding the edges of a formica-topped bench. The formica looked as good as mahogany that had been hand-rubbed for years.

Mr. Ross explained that “formerly specially treated wood was used for bench tops, but scientists prefer formica because it has a more even surface and is more resistant to chemicals.”

In another section of the shop

(See CARPENTRY SHOP, Page 8)
Dr. Harold Baer Named Chief, DBS Laboratory Of Bacterial Products

Dr. Harold Baer has been appointed chief of the Division of Biological Standards' Laboratory of Bacterial Products.

He will be responsible for a research program on bacterial infections and allergic reactions.

Dr. Baer has served as chief of the DBS Section on Allergic Products since joining NIH in 1969. Author of some 50 scientific publications, he has been primarily concerned with studies on standardization of allergic extracts and tuberculin.

He has conducted extensive research on the composition of tuberculin, on poison ivy and related substances that induce delayed sensitivity, as well as allergens derived from pollens and insects.

Education Noted

Dr. Baer graduated from Brooklyn College. He received his M.A. from Columbia University in 1940, and his Ph.D. from Harvard University in 1944.

He served as assistant professor and subsequently as associate professor, Department of Microbiology, Tulane University Medical School, for 10 years prior to his NIH appointment.

Single copies are available without charge from the Division of Dental Health, Wiscosin Building, Bethesda, Md. 20014.


Dr. Robert T. Drew (I), NIEHS Aerosol Toxology Unit, explains the new animal exposure chambers to Earl Cook, NIEHS Research Services Branch. The chambers will be used to study the effects of pesticides and industrial and household sprays.

Four New Members Join Nat’l Advisory Council On Training of Nurses

Four appointments to the National Advisory Council on Nurse Training were recently announced by Dr. Robert Q. Marston, NIH Director: Drs. Celestino Clemente, Cynthia Kinsella, and Henry Wilson Littlefield, and George D. Monardo.

Drs. Clemente is clinical assistant professor of Surgery at the New Jersey College of Medicine and Dentistry; also, director of Surgery at St. Vincent’s Hospital in Montclair, and chief of staff of the United Hospitals of Newark.

Dr. Kinsella is Director of Nursing at Mt. Sinai Hospital in New York, and also Dean of the School of Nursing at City College.

She now serves as chairman of the American Nurses’ Association Commission on Nursing Services, and as president of the Tuberculosis and Respiratory Disease Association of New York.

Dr. Littlefield has been president of the University of Bridgeport since 1962, and is a member of commissions on nursing education and accreditation.

Mr. Monardo has been executive vice president of the Franklin Medical Center in San Francisco since 1966. He is director of both the San Francisco and Bay Area Regional Comprehensive Health Councils.
Ozzie Grabiner Turns Entrepreneur; Sells Hot Peanuts, Buttery Popcorn in Wagon

The stage lost a thespian but NIH gained a Forms and Records Management Office who can act. He's Oscar (Ozzie) Grabiner and he came to NIH in 1956 in the section he now heads.

Mr. Grabiner is retiring, that is, from NIH. No rocking chair will get him—but a wagon will. In fact, several wagons. For Mr. Grabiner and his wife plan to open a string of wagons, locate them in strategic shopping centers and sell "hot peanuts, warm buttery popcorn, and delicious caramel popcorn." One wagon is already a going concern at the Wildwood Shopping Center. However, Mr. Grabiner will miss the reservation, and he enjoys talking about it like it was—14 years ago.

"It was charming, nice, uncrowded, without confusion, and we had smaller appropriations," he said, mock-seriously.

Mr. Grabiner even became nostalgic over NIH's former way of conducting the orientation course for new employees.

"It used to be called the Compass Course," he explained. "I couldn't get much meaning out of that phrase, but the new employees enjoyed it because we had good talent like Dr. Masur and Clinical Director Center Director instead of a motion picture. "We had fine speakers then."

Directors Suggestion Program

Mr. Grabiner noted that his own job became more and more complex—"the size and scope of the problems changed"—with the growth of NIH. And to take care of some of these problems he donned another hat. The management officer was named NIH Employee Suggestion Coordinator.

"Just dial M-O-N-E-Y from your office phone and you'll get me," he said. This program, started by Mr. Grabiner, evaluates suggestions that will reduce the cost of a project. It will continue after he retires—but the voice at the other end of the phone will be different. Like dessert, he was saying what used to be one of his favorite campus activities, for the last. Mr. Grabiner was a Hamster from way back—1957, to be exact. He was one of a group of an organization made up of NIH employees who were amateur actors.

Mr. Grabiner described himself as an "active" member. He was production manager, and also often took lead parts in many of the plays.

"Some of the shows we put on were "Guys and Dolls, Little Abner, and Annie Get Your Gun. Crowds came back stage every night to congratulate us."

"I remember when we put on "Life at NIH." We poked fun at ourselves and our daily activities. This is me (pointing to a photograph) when I used to wear a crew cut, and here I am in a beard."

Even Mrs. Grabiner, formerly an administrative assistant at B&R, turned campus actress because "she got lonely when I was away on rehearsals nights."

And now both he and Mrs. Grabi-

Most all of Ozzie Grabiner's NIH friends attended his farewell party—which made for a crowded affair. His retirement plans include traveling—one of his favorite pastimes.

His farewell party, attended by all his NIH friends, was a crowd pleaser, and the most repeated phrase heard was, "Ozzie, come back and see us."

National MEDIHC Office Established in BHME

Establishment of a national program administrative office for Operation MEDIHC (Military Experiences Directed Into Health Careers) has been announced by Dr. Roger O. Egeberg, HEW Assistant Secretary for Health and Scientific Affairs.

"This is the first in a series of steps which will be taken to expand significantly the MEDIHC program nationwide, as was announced by President Nixon in his February 18, 1971 message to the Congress," Dr. Egeberg said.

Operation MEDIHC is a counseling and recruitment program for Vietnam and other returning veterans who have health occupations skills, training, and experience. Through MEDIHC, military personnel with an interest in health careers may locate civilian employment and training opportunities in the health field prior to being separated from the Armed Forces.

The program administrative office has been established in the Division of Allied Health Manpower, Bureau of Health Manpower Education and Facilities Branch.

By locating the administrative office for Operation MEDIHC in this division, Dr. Egeberg explained, "we are bringing the ongoing operation of the program office in closer contact with the most rapidly growing segment of all health manpower."

Dr. John S. Zapp, Deputy Assistant Secretary for Health Manpower, will continue his role as HEW coordinator of MEDIHC.

Dr. Zapp has named Alice B. Frazer, a Public Health Service officer who administered the initial phase of Operation MEDIHC, as the Program Coordinator.

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The newborn opossum is about ½ inch long, weighs 5/1,000 of an ounce and is no bigger than a bee. It is actually smaller than the mother’s toe. A litter of 13 opossums will fit into a teaspoon at birth. The adult animal is about one year old and weighs 8½ pounds. The opossum gains 1,000 times its weight by the time it leaves the mother at 3 months of age. At maturity, about one year of age, the opossum’s weight has increased another 24,000 times.

OPOSSUM

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In the opossum, growing embryonic tissue is directly accessible simply by opening the mother’s pouch.

In one series of experiments under way in Dr. Jurgelsky’s laboratory, the newborn opossum is being used to seek a better understanding of the embryonic state at birth. Shortly after birth, the tiny opossums are given a single dose of a carcinogen through a threadlike plastic tube inserted in their mouth next to the mother’s nipple.

The majority of the animals develop cancer of various organs within 3 to 4 months. But of these, a surprising number also have birth defects, a rare coincidence in other laboratory animals implying that the opossum may be an ideal animal to use in unraveling the long suspected relationship between cancer and developmental defects.

In a second investigation, the opossum newborn is being used to learn more about the manner in which toxins entering the mother during pregnancy damage the thyroid gland.

Thyroid Functions After Birth

In most animals thyroid function begins in the womb where it cannot be studied without affecting the mother. The opossum is well suited to this work because its thyroid gland does not begin to function until about one week after birth, when it can be studied independently of the mother.

The opossum newborn, because of its markedly undeveloped nervous system at birth, also appears to be a highly suitable animal model in which to investigate alterations in brain growth and function caused by exposure to environmental toxins during early growth.

But the experimental work is only half the story of the opossum colony at the Institute. Experiments using newborn animals were not possible until a way had been developed to induce the animals to reproduce in captivity in large numbers.

Over the 83 years that the opossum has been studied scientifically, no one has been able to breed the animal in the usual cages inside a laboratory; successful breeding was possible only when small numbers of animals were allowed to roam freely in large rooms or outdoor wooded enclosures.

Dr. Jurgelsky, a research pathologist with both Ph.D. and M.D. degrees, while at Duke University, had unsuccessfully attempted to breed the animals in cages in the laboratory over a 3-year period. He found soon after coming to the Institute that outdoor enclosures were also not the answer.

His first attempt at breeding the animals in a ¾ acre wooded enclosure during the winter of 1968 was a complete failure—only a single litter consisting of two animals was born and most of the adult animals died from a disease which could not be controlled under the outdoor conditions.

The following winter the pen size was increased to one acre, but again disease control proved impossible; in addition, it was found that the time required to locate 60 females every day to check their pouches for young was overwhelming.

In a final attempt to salvage the colony in the spring of 1969, the surviving animals were housed in small cages constructed of wire mesh. These cages were placed in a wooded area in the hope that the animals, though caged, would respond to the natural surroundings. Under these conditions the reproduction rate was surprisingly high.

This approach appeared promising enough so that in the winter of 1969 the concepts developed by Dr. Jurgelsky were incorporated, with the aid of the engineers of the Research Services Branch and the veterinarians of the Animal Science and Technology Branch, into the design of two new buildings, built especially for keeping opossums.

In the unique new facility, 250 animals can be housed under sanitary conditions in individual cages featuring a flip top nest box and a walk-through shelf. During the breeding season, from January to June, romance is encouraged by removing partitions between males and females when a technique similar to a “pap” smear indicates the females may be receptive to courtship. The timing is critical since a female not interested in motherhood will frequently kill the male.

Last year the opossums at the Institute, maintained under the clean semideal conditions made possible by the new building and mated in a controlled fashion, produced approximately 70 litters of young—probably a world’s record for opossums in captivity.
New Method Devised to Test Deafness in Living Animals Aids Genetic Research

A method for testing hearing in human infants may be possible now that National Institute of Dental Research and Eye Research Foundation scientists have found a way to test deafness in living animals. Because the test does not require patient cooperation, researchers feel it should prove useful in studying hearing in human infants.

The research was funded by the National Institute of Neurological Diseases and Stroke.

Causes Not Understood

The causes of genetic deafness, which may account for nearly one-half of all deafness cases in this country, still are not well understood.

Scientists have adapted a lock-in amplifier to measure directly the ability of the animal’s ear to convert sound waves into electrical impulses. The amplifier can detect and measure electrical signals of known frequency that are “buried” in high amplitude background noise.

It is the electrical impulses produced in the cochlea that are interpreted by the brain as hearing.

After a pure tone is fed into the ear, the device picks up and measures the impulses made in the ear. If the wave pattern of the ear’s electrical signal is the same as that of the sound wave, the subject is not deaf.

Signals Give Clue

If the cochlear signal is missing, then the animal is deaf. The subject is considered to have impaired hearing when the electrical signal is smaller than normal.

With the new test it is now possible to breed animals specifically for genetic deafness by pairing animals which are deaf or have impaired hearing.

Offspring can be studied at a very early age to determine how normal animals first begin to hear, the pattern of hearing degeneration in animals with impaired hearing, and what genetic mechanisms are involved in deafness.

A human infant born of two deaf parents was tested by this method and found to be able to hear, and another was proven deaf. This indicated that the test might eventually be an indicator of human, as well as animal hearing.

Scientists Describe Tests

Dr. Kenneth S. Brown, NIDR, and Bartley Gordon and Dr. C. Richard Caronius, Eye Research Foundation, Bethesda, described their deafness test in Nature.

Cystic Fibrosis

Scientists Explore New Cystic Fibrosis Research

Outstanding investigators from various parts of the U.S. recently concluded a conference on cell and tissue culture in cystic fibrosis, an inherited disorder of children and young adults.

The meeting, held at NIH, was sponsored by the National Institute of Arthritis and Metabolic Diseases and the National Cystic Fibrosis Research Foundation.

Researchers discussed the results of their investigations and explored the application of new techniques to various cystic fibrosis problems.

Dr. Paul A. di Sant’Agnese, chief of NIAMSD’s Pediatric Metabolism Branch and conference chairman, said that the exchange of information at the conference led researchers to learn from each other’s work months or even years before the results of experiments appeared in print.

Time Log Is Extensive

He explained that this was because of the time factor—there is an extended lag between the appearance of a scientific article and the time it appears in print.

Dr. di Sant’Agnese cited a finding, stemming from earlier research, which suggests that tissue culture fibroblasts (the flat elongated cells forming fibrous tissue) from cystic fibrosis patients presented morphologic and chemical abnormalities, which, at times, differed considerably from each other.

Formerly, cystic fibrosis was considered a disease limited to exocrine glands. Now it appears that all body cells may be involved in this generalized disorder.

Furthermore, the different chemical changes in groups of patients suggest that the clinical picture of the disease might be due to two or more diseases masquerading as a single one.

Dr. di Sant’Agnese said that the implications of this research are far-reaching and give new insight into the basic molecular defect of cystic fibrosis.

At the recent conference, Dr. di Sant’Agnese showed the chart demonstrating pathogenesis of the inherited disorder affecting children and young adults.