NEW GRANT FUNDS
TOTAL $14 MILLION

Over $14,000,000 in PHS grants have been approved by Dr. Leonard A. Scheele, Surgeon General, following recommendations made by the National Advisory Councils at their summer meetings. Basic and applied research in the major diseases afflicting mankind will be carried on under the grants, which will cover 1,442 medical research projects being conducted in 335 institutions.

Four hundred and fifty-nine of the awards, totaling $4,568,073, are for new research projects; 983, totaling $10,117,598, are for continuation of existing projects. Administered by the Institutes and the Division of Research Grants, the awards are divided as follows:

<table>
<thead>
<tr>
<th>Grants</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIAMD</td>
<td>$2,004,534</td>
</tr>
<tr>
<td>NINDB</td>
<td>1,798,267</td>
</tr>
<tr>
<td>NCI</td>
<td>2,13,469</td>
</tr>
<tr>
<td>NIDR</td>
<td>187,165</td>
</tr>
<tr>
<td>NMD</td>
<td>1,315,483</td>
</tr>
<tr>
<td>NHL</td>
<td>3,196,308</td>
</tr>
<tr>
<td>NIMH</td>
<td>942,571</td>
</tr>
<tr>
<td>DRG</td>
<td>2,077,874</td>
</tr>
</tbody>
</table>

These amounts represent approximately 40 percent of the fiscal year 1955 funds appropriated by Congress for medical research projects supported in whole or in part by PHS grants.

The grants award program covers support of research in the medical and biological sciences, particularly in the causes and treatment of heart disease, cancer, mental illness, arthritis, metabolic and neurosensory disorders, neuromuscular diseases, diseases of the teeth and oral cavity, and those of microbiological origin.

GRADUATE SCHOOL TO START AT NIH

September 27 has been set as the opening date of the new Graduate School program at NIH. Courses have been organized by the Graduate School of the U. S. Department of Agriculture and will be administered by the NIH Office of Clinical and Professional Education. Registration for classes will be held from September 20 through 24 in Room 1-N-242, Building 10.

The courses to be offered this first fall semester were selected by an NIH Scientific Advisory Committee, and most of the instructors have been chosen from the NIH staff. The curriculum covers a wide range of scientific and technical subjects in the fields of mathematics, physics, biology, medicine, chemistry, and languages.

The program will be expanded to meet other educational needs of NIH personnel, and additional advisory committees will be appointed to assist in planning future courses.

During the coming semester, the Graduate School plans to survey in more detail the educational needs and interests of NIH employees.

The classes, which will be held on the NIH reservation after work hours, are open to all government employees and to the general public. Tuition will be $10 per credit hour and textbooks, which may be ordered through instructors, will be delivered at NIH. Courses will be offered on four levels: noncredit, undergraduate, advanced undergraduate, and graduate. The Graduate School does not grant degrees, but a student may transfer his credits to a degree-conferring institution by special arrangement.

Full details on the fall schedule of classes and the Graduate School program may be obtained from Dr. Murray C. Brown, Chief, Clinical and Professional Education, Room 1-N-242, Building 10, ext. 2427.
Studies of Bufotenine

No. 123 in a Series

Left: Marie Johnson and Dr. W. S. Fish study paper chromatogram showing separation of materials extracted from cohoba, a narkotic snuff used in the West Indies and South America. Right: A Venezuelan Indian inhales narkotic snuff, by means of a bifurcated tube.

Cohoba, a narkotic snuff used by West Indian witch doctors at the time of Columbus, is being studied by the Laboratory of Chemistry of Natural Products of NIH and the NIMH Clinical Investigations Branch. The drug is one of the hundreds screened by the NHI Laboratory in its search for natural products of therapeutic value.

The ceremonial use of cohoba was first described in 1496 by Ramon Pane, who accompanied Columbus on his second voyage. The snuff was used by the priests and witch doctors to induce a hypnotic state, accompanied by visions, which were supposed to enable them to communicate with unseen powers.

Cohoba is derived from the seeds of the Piptadenia peregrina, a mimosa-like shrub found in the West Indies and South America. William Safford, a scientist with the Bureau of Plant Industry, USDA, suggested that the most remarkable fact connected with Piptadenia peregrina was that, though its fruit had been reported by many explorers and botanists as highly narkotic, it had never been studied chemically or therapeutically, and the source of its intoxicating properties still remained unknown. Though Safford wrote his report in 1916, the suggestion was not carried out until the Heart Institute study in 1933. The seeds for the NHI study were secured through the Agricultural Research Service from Las Mesas, Puerto Rico. The preliminary pharmacological work was done by Dr. Neil C. Moran of NHI.

Dr. Verner L. Stromberg of the NHI Laboratory isolated the active agent of the drug and identified it as bufotenine, a specific basic pressor principle, usually found in the salivary and skin glands of toads. Bufotenine is closely related chemically to serotonin, the potent constrictor of blood vessels obtained from the poison gland of the tropical toad, Bufo marinus, and currently the subject of another NHI study. Comparative studies revealed that the cohoba principle is serotonin with two additional methyl groups. The seed pods of Piptadenia peregrina showed slight traces of bufotenine, but none was found in the leaves or branches of the shrub. Dr. Melvin S. Fish and Miss N. Marie Johnson of NIH are at present testing the seed extract for the determination of other unknown alkaloids, and taking inventory of the alkaloid content of other species of the Piptadenia group.

The mental and neurological effects of the bufotenine are currently being studied by Dr. Edward Evarts of the NIMH Clinical Investigations Branch. Working with unanesthetized monkeys, Dr. Evarts has found that these animals show the same symptoms of disturbed behavior as those given lysergic acid diethylamide, an indole alkaloid related to serotonin.

Cardiology Congress

The Second World Congress of Cardiology will meet at NIH September 15th and 17th. A tour of the Clinical Center and special exhibits by NIH are being planned. Physicians and scientists from more than 40 countries will attend the convention, to be held Sept. 12 - 17, with headquarters in Washington.

Honors

Dr. James Birren, NIMH, has been awarded a National Science Foundation grant to attend a scientific meeting in London.

Dr. Harold F. Dorn, OD, was re-elected general secretary of the International Union Against Cancer at its last meeting. Dr. W. C. Hueper, NCI, was named chairman of the Committee on Cancer Prevention of the organization.

Retirement

Miss Laura C. McCarty, Administrative Assistant in the NCI Research Grants and Fellowships Branch, retired July 30 after 33 years of Federal service. Miss McCarty had been in PHS since 1925, and joined the NIH staff in 1937. She moved to St. Petersburg, Fla., shortly after her retirement.

Patients' Librarian

Miss Margaret C. Hannigan, former Library Science teacher at Marywood College, Scranton, Pa., and Librarian of the Northport, L.I., Veterans Hospital, has been named Librarian in the CC Patients' Library.

Reminder

Badly littered areas on the reservation have prompted a request for employees to deposit trash, empty bottles, and other debris in containers provided for that purpose. Automobiles should be kept off the grass; please use roadways and parking areas only.

N. I. H. RECORD

Published by
Scientific Reports Branch
National Institutes of Health
Room 116, Building 1
Bethesda 14, Maryland
OLiver 4-1400 Ext. 2125
R & W NOTES

A substantial discount on National Symphony Orchestra season tickets will be made available to R & W members this year. An announcement containing full details will be circulated to all employees shortly after Labor Day.

The Employee Garden Committee has announced the results of the judging of the NIH garden plots. First prize was awarded to Kenneth Brown, NMI, second prize to Dr. Victor Haas, NMI, and third prize to Dr. Richard Williams, NIMH.

Many interesting new activities are under consideration for the winter season. Watch the mails for a general announcement and questionnaire.

The R & W revolving fund for the purchase of postage stamps for resale to employees was increased by $75 this month. Stamps may now be purchased in the T-6, Building 1 and CC mailrooms.

The Association would like ideas for an official R & W seal. If you have any suggestions of symbols representative of the R & W, send them to Dorothy Horlander, Rm. 113, Bldg. 1, Ext. 2577.

JOSEPH L. MURPHY
RETURNS TO NIH

After an absence of two years, Joseph L. Murphy has returned to NIH, following completion of assignments in South and Central America with the Foreign Operations Administration, Institute of Inter-American Affairs. He is now working in the Office of Research Planning, OD.

In Quito, Ecuador, Mr. Murphy was Business Manager of the Health Servicio, whose main function was the introduction of modern water and sewer systems, and such health facilities as hospitals, and clinics. In Tegucigalpa, Honduras, he was Business Manager of the Education Servicio, which was responsible for expanding and improving the elementary agricultural and vocational educational systems.

Mr. Murphy came to the NIH in 1948 as Assistant Administrative Officer in the Experimental Biology and Medicine Institute, now NIAMD. He also served as Administrative Officer of NIDR from January 1949 to April 1952.

NIH SPOTLIGHT

Bill Loechel puts the finishing touches to a medical illustration.

LYMAN MOORE ACCEPTS
POSITION IN MANILA

Lyman Moore, Executive Officer of NIMH, left NIH August 20 to accept a position with Booz Allen and Hamilton, a management consultant firm. His first assignment will be in the Philippine Islands.

Mr. Moore will be working out of the Washington office of the firm and expects to be stationed in Manila at least a year. As a member of a team, he will study and bring up to date the budget system of the Philippine Government. His wife and two children will accompany him. Mr. Moore came to NIH in 1949 from the Bureau of the Budget, where he was a Budget Examiner.

NIH BIDS FAREWELL TO
MRS. PATRICIA BOYER

Mrs. Patricia M. Boyer, Chief of the Clinical Center Housekeeping Section, left NIH on August 13 to become Executive Housekeeper at the Evanston Hospital, Evanston, Ill. Since her arrival at NIH in August 1952, Mrs. Boyer's staff has grown to 155 members, including office personnel, supervisors, floormen, housemen, maids, and elevator operators. She was executive housekeeper at the Walter Reed Army Medical Center, the Meriden, Conn., Hospital, and the George Washington University Hospital before coming to NIH.

That a good picture is worth a thousand words is demonstrated in the job performed by William E. Loechel.

A member of the Medical Arts Section, he is on duty as the Scientific Illustrator in the Clinical Center. Bill prepares drawings from operating room procedures, from anatomical and pathologic specimens and from clinical data. These completed drawings can reveal information more readily to a doctor than can pages of written explanations. Since his arrival at NIH in January, most of his illustrations have been for NHI and NINDB, but his services are available to all Institutes.

Medical illustrating does not oppose medical photography, Bill emphasizes; they are colleagues. Many times a photograph makes the best graphic display, and many times a drawing is better. In some instances, such as operating procedures calling for considerable subject detail, photography is inadequate and the medical illustrator's keen eye and skilled brush must be employed. In others where the doctor may need a view of the region beneath the immediate operating area, a phantom sketch can be provided by the illustrator.

Before each assigned operation Bill consults with the surgeon, the X-ray Department, and others responsible for the diagnosis. He familiarizes himself with normal

(See NIH Spotlight, Page 4)
STUDY SECTION MEETINGS


LOST AND FOUND

The following articles have been found on the NIH reservation:
Sunglasses Door key
The above articles may be seen in the Guard Office, Room 119, Building 1.

Pocketknife Sweater
Boy's jacket Thermos bottle

Public Health Sanitation Section

NIH Spotlight Cont'd

conditions and learns through the consultations what abnormalities may be expected. During the operation he makes a rough sketch and later redraws it, measuring each component. The finished drawing then resembles a photograph. During the operation Bill must maintain constant vigilance while drawing in order to keep from touching the surgeon and his team, yet he must be able to see adequately over shoulders and under arms. "I look like someone dodging a basketball," Bill muses.

Bill's interest in medical illustrating began about 16 years ago when he visited the first school of medical art at Johns Hopkins University established by Max Broedel, who had distinguished himself in Germany for his beautiful and accurate drawings. "He inspired me with his genuine interest," Bill recalls, and although he never took any lessons from Mr. Broedel, he claims he's "still struggling to be as good." During his career Bill has done medical illustrations for 29 books and several journals.

A native of Baltimore, Bill lives there with his wife and son, Billy, 4 1/2, and daughter Jane, 2 1/2. His main hobby is painting western scenes and horses and he has already had two one-man shows in Baltimore. His fondness for cowboys and western settings began early in childhood "like every American boy" he declares, "and I'm still a western fan."

SCHOOL Cont'd

The Graduate School's regular fall program of more than 250 courses will open on September 20, at the Department of Agriculture. Registration for these courses will be held from September 11 through September 18 in the patio of the USDA Administration Building.

NIH SCIENTISTS STUDY MINIATURE PIGS

A new kind of experimental animal—a miniature pig—is currently being studied by scientists in the NIH Clinic of Surgery to determine its suitability for research. The pigs were specially bred for experimental use by the University of Minnesota Hormel Institute, in Austin, Minn. An NIH grant helped to support the research.

The Hormel scientists crossbred three strains of wild pigs to produce the "pigmy pig." The second generation of the pig weighs from 40 to 100 pounds at 156 days of age, as compared to 200 pounds for a market pig of the same age. Further generations are expected to achieve a much smaller size, possibly 25 to 50 pounds at maturity, or approximately the size of a laboratory dog.

The NIH researchers are currently using the pigs for a study of the alterations of pulmonary blood flow in normal and diseased states. Other research institutions are investigating the animal's research potential for tumor and virus studies. Findings of the NIH group thus far indicate that the pigs, if available later in large numbers, may prove to be more useful than laboratory dogs for heart disease research. The coronary artery pattern of the pigs is similar to that of the human, and the abnormal fat metabolism of the animals could facilitate arteriosclerosis studies. Inbred strains and large litters of the pigs would provide advantages approaching those of small animals for laboratory use.