NEW EXHIBIT TELLS OF COLLABORATIVE STUDY

A large human brain, modeled in plastic, is the central feature in the NINDB exhibit on display in the CC lobby through May 15.

Produced by NINDB and constructed by the Medical Arts Section, DRS, the exhibit deals with brain damage in children and with the Institute's perinatal project.

Started last January, the perinatal study is a five-year collaborative project to be carried on by the Institute and 16 leading independent medical institutions throughout the country. These organizations have begun an intensive study of 40,000 pregnancies, from conception to one month after birth, in an effort to learn more about the causes and prevention of cerebral palsy, mental retardation, and other neurological and sensory disorders. Research has already indicated that most causes of these diseases probably lie in the perinatal period.

During the course of the program, precise, standardized records will be kept on family medical histories, the course of pregnancy, the events of labor and delivery, and the progress of the child until school age. Participating scientists expect to find statistical relationships between the development of neurological disorders in children and unusual events and problems during pregnancy, labor, and delivery.

During the pretest phase of the program, conducted in 1958, investigators discovered that appropriate administration of sugar is an effective measure against some cases of permanent brain damage caused by lowering of the blood sugar, a previously disregarded factor, occurring during the neonatal period in children of toxemic mothers.

A technique now widely applied arose from another finding during

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Potent TB Vaccine Made From Cell Walls

No. 227 in a Series

Cell walls of Mycobacteria magnified 88,000 times.

A more potent vaccine for tuberculosis, and one less likely to be toxic, now seems to be a probability. An outcome of the work of Edgar Ribi, Carl L. Larson, Robert List, and William Wicht of NIAID's Rocky Mountain Laboratory, the new preparation promises effective protection to those threatened through contact with the disease.

Several years ago the scientists found that the antigens, or immunity-producing substances of several bacterial agents were contained entirely in the cell wall. Their work with tularemia, histoplasmosis, and salmonellosis proved that a more effective vaccine could be produced from the cell wall alone, and they next investigated the tubercle bacillus.

Because of the danger of working with the tubercle bacillus itself, the present studies are centered on two strains of Mycobacterium tuberculosis and of M. butyricum, common organisms resembling the tuberculosis agent, but much less likely to produce the disease.

In the ordinary production of a vaccine, the whole cell—protoplasm, nucleus, and cell wall—is killed or modified by chemical or other means. This frequently leaves an inactive and perhaps even toxic residue. In using the cell wall alone, the cell protoplasm and extraneous culture material must be removed in order to arrive as closely as possible at the essential particles that stimulate immune reactions.

Purification of the cell wall material involves a series of centrifuging and washing procedures, where ether and other solvents extract the soluble components, such as the lipid content of the cell walls, but preserve biological activity. In alternating steps, the cell is gently shaken with glass beads of about one-eighth inch diameter. The beads crack the cell walls, and the protoplasm finally separates from the cell by centrifugal force.

The electron microscope is used throughout the procedure to check the purity of the substance. Eventually it is seen that the cell walls have been cracked at one end but that little or no protoplasm remains. It is well known that impurities in the whole cell frequently produce toxic or allergic reactions; however, experiments on rabbits have demonstrated that the cell-wall preparation can be freed of these impurities. Moreover, this new experimental vaccine, being purer, is effective in much smaller quantities.

With the prospect of this improved vaccine in view, there is the added possibility of finding other bacterial agents so constituted that they may be made into immunizing agents in the same way.

NCI Journal Wins Award

The American Medical Writers Association has given the Journal of the National Cancer Institute its 1959 award for distinguished service in medical journalism. The AMWA is affiliated with the American Association for the Advancement of Science.

EXHIBIT Contd.

the pretest phase revealing that bacterial infections in the newborn can be reliably detected by the study of frozen sections of the placenta membrane and umbilical cord.
Throughout all 168 hours of each week, NIH is one of the area's largest consumers of electricity. From surgical lights to office typewriters, a list of things operated by electricity is almost endless. And a definite traumatic experience to the average housewife would be the accidental receipt of NIH's electric bill—more than $150,000 each month.

One of the men charged with the responsibility of keeping electric power flowing into NIH's laboratories and offices is Emory L. Byrum, lead electrician in DRS' electric power plant in Building 11.

As a boy in his teens in northwest Washington, Emory Byrum learned the elements of electricity working with his father on local construction projects. Later, throughout the 1920's, he worked as an electrician for several firms in the District of Columbia, increasing his knowledge of the trade.

He began his government service in 1936 as an electrician for the Architect of the Capitol, and later performed the same duties for the Department of the Interior.

When Emory Byrum came to Bethesda in 1940, he was one of only three electricians at NIH. Now there are 50. "In those days," he recalls, "the three of us serviced just six buildings, and the power plant was in the basement of Building 1, next to the elevators."

But times changed, NIH expanded, and so did the electric power system. Mr. Byrum became power plant foreman in 1955. Building 11, still a mystery to most employees who drive by, was completed in the early 1950's, and is now the second largest power plant in the Washington area.

Eighty-eight transformers across the reservation provide power day and night to more than 7,000 users. At the height of summer's heat, five giant air conditioners (a sixth is being added) pour cooled air into each building.

Though it has not been used too often, a steam-powered emergency generator is standing by in the event of power failure. With only one major power failure over the years, NIH's electric system has set an excellent record.

Each time a button is pressed and electricity powers an automatic elevator, a desk lamp, a refrigerator, or a centrifuge, Emory Byrum and his power plant crew can be thanked as the indispensable mid-dlemen.
GROUNDBREAKING SET FOR NEW LIBRARY

Architect's drawing of the new National Library of Medicine, to be constructed on the former Glenbrook Golf Course tract, south of the present NIH grounds.

NLM CONSTRUCTION BEGINS IN JUNE

Groundbreaking ceremonies for the new $7.5 million National Library of Medicine are scheduled for June 12 on the site of the former Glenbrook Golf Course grounds, south of Buildings T-18 and T-19.

Construction of the new library will begin later in June, and the building is expected to be completed in 1961, in time for the 125th anniversary of the library's founding.

Construction plans call for a five-story building providing 232,000 square feet of floor space. Three of the levels will be underground. The completed building will cover 1.2 acres, and will have room for 1,150,000 volumes.

In addition to card catalogs, a reading room, study alcoves, and working areas for reference librarians, bibliographers, and catalogers, the library will feature a "History of Medicine Reading Room," a separate area containing worktables and individual study rooms, with more than 5,000 medical volumes of the 15th and 16th centuries.

The National Library of Medicine was established in 1836 as the "Library of the Surgeon General's Office" of the U.S. Army. The name was changed to the Army Medical Library in 1922, and to the Armed Forces Medical Library in 1952.

Its steady growth has brought it worldwide recognition as a medical library. Primarily an archival institution, it will provide library services to research scientists, and will continue to supplement the NIH Library's research mission.

In October 1956, responsibility for administration of the library was transferred from the Army to PHS. At present, the library is located at 7th Street and Independence Avenue, S.W.

NEWS BRIEFS

Dr. Parkhurst A. Shore, head of the Section on Biochemistry of Drug Actions, Laboratory of Chemical Pharmacology, NHI, was awarded the annual $1,000 Abel Prize of the American Society for Pharmacology and Experimental Therapeutics at Atlantic City April 16. He was cited for his research in brain chemistry.

Dr. Murray J. Shear, chief of the Laboratory of Chemical Pharmacology, NCI, was elected Vice President of the American Association for Cancer Research last month at Atlantic City. Dr. Shear will become president of the Association next year.

Dr. Thelma Dunn, of the Laboratory of Pathology, NCI, was elected to the Board of Directors of the Association at the same meeting.

ARCHITECT JOINS DRG

T. Gordon Young, architect and former president of a construction company in Bethesda, assumed his duties April 20 as a staff member of the Health Research Facilities Branch, DRG. Mr. Young will serve as a research facilities analyst and program consultant on architectural and constructural aspects of grants for research facilities.

A native of Washington, Mr. Young is a graduate of Woodrow Wilson High School. He received his Bachelor of Architecture degree from Catholic University.

SPRING HOUSECLEANING RECOMMENDED FOR ALL

"We're taking a dose of our own medicine," said Donald L. Snow, Chief, Sanitary Engineering Branch, as he looked around at the filled waste cans and half-scrubbed walls in the SEB's quarters on the 11th floor of the Clinical Center.

"This full-scale housecleaning," he said, "is the sort of thing we recommend as an annual occurrence. It's even more pertinent now, with the waste-pipe installation going on in this building and so many offices relocating around the reservation."

As members of the CC housekeeping crew scrubbed the walls and windows, a team from the Fire Department arrived to dispose of some chemicals and broken glass that couldn't be put down drains or in wastebaskets. "The same sort of cleaning job for all the other buildings on the campus can be scheduled with DBO's Housekeeping Section," said Mr. Snow, "and they're the ones to call if you need extra hampers for trash."

Mr. Snow added that an extra desk and typewriter were being turned over to the property utilization program of DBO for reconditioning and use in another location.

"Some of our files go back 10 years," he said, "and we've asked for someone in DBO's records management program to come over here and advise us on which to discard and which to send to the Federal Records Center."

No evidence of insects or rodents had been found during the cleaning, he said, but the SEB is ready to provide immediate control measures when necessary.

"I hope section chiefs plan for this kind of housecleaning every spring by requesting the services of these facilities ahead of time," concluded Mr. Snow.