in-house laboratories a certain amount of local control over research operations. Accordingly, each of the laboratories is given about 5 percent of annual operating funds to support locally initiated research. As one official put it, "That's sort of institutionalizing bootlegging." Another pointed out that bootlegging can be so valuable that "in one major private industrial laboratory, they get worried if 10 to 20 percent of their research isn't in unconventional, locally generated research that takes place without looking for the approval of the higher-ups."

The significance, extent, and future of bootlegging defy any precise assessment. But that it is a well-established, durable, and useful mechanism seems certain, as witness an anecdote written in the *Bulletin of the Atomic Scientists* in 1947 by the late Louis Ridenour: "I have a friend who is a band spectroscopist on the faculty of a large state university. He has been particularly interested in the band spectrum of the element nitrogen. He once said to me: 'When the representatives of the state legislature visit me, I always tell them I am trying to make better fertilizer.' There is to be sure, nitrogen in fertilizer and knowledge is power. It is just conceivable that my friend's investigations of the band spectrum of nitrogen may some day affect the fertilizer industry in some unexpected way. But it is undeniable that his interest is in spectroscopy, in and of itself."

—D. S. GREENBERG

Announcements

A facility for reporting earthquakes to news services and to government agencies responsible for public safety was announced on 15 August by the Environmental Science Services Administration (ESSA). The National **Earthquake Information** Center will report the occurrence of earthquakes of medium magnitude (6.5 on the Richter scale) or larger as soon as it receives notifications, and will release precise information on location, size, time, and the effects of the disturbances when the scientific data are analyzed. The center, at the Coast and Geodetic Survey headquarters in Rockville, Maryland, will also be the focal point for ESSA's Earthquake Emergency Plan, a program designed to provide both emergency and longer range technical aid to areas of the United States badly damaged by quakes and tsunamis (seismic sea waves). The office of seismology and geomagnetism, in the Coast and Geodetic Survey, will supervise the scientific and technical operations of the center, and will have primary responsibility for the emergency plan.

The Botanical Society of America has published a book listing more than 100 departments of botany, biology, and plant pathology that offer the Ph.D. degree for botanical projects. The **Guide to Graduate Study in Botany** includes information on current enrollments, degrees that each department offers, and how many Ph.D.'s each has granted during the past 5 or 6 years, and the fields of specialization represented in each department. The book also names the botanists on each faculty, gives their academic ranks and specialties, and provides pertinent background data on them. Copies of the guide may be obtained from the Society, Department of Botany, Indiana University, Bloomington 47401, for $3 postpaid.

A program aimed at giving laymen greater insight into the nature and the social importance of modern science will begin next month at the New School for Social Research, New York. It will consist of introductory courses on the natural and life sciences and on the history and philosophy of science; special lectures; and monthly seminars on such topics as air pollution, population control, peaceful uses of nuclear energy, and the biological and social aspects of race. The program, called "**science for the citizen**," was designed in cooperation with the Scientists' Institute for Public Information and the New York Scientists' Committee for Public Information. The coordinator is Curtis A. Williams, associate professor in biochemical genetics at Rockefeller. Additional information and current catalogs are available from the registrar's office, The New School, 66 West 12 Street, New York.

Contracts and grants for research on **kidney disease** are being offered by the National Institute of Arthritis and Metabolic Diseases (NIAMD) at NIH. The Institute's R&D program in chronic uremia, dialysis, and artificial kidney development is aimed at lowering the cost and improving the clinical efficiency of current methods of dialysis. The program includes making contracts for applied research and grants, under NIAMD's regular extramural grant system, for basic and clinical studies. Nonprofit institutions and profit-making organizations are eligible for funds, the latter only for contracts. Details of the program's objectives and instructions for applying for funds are given in a brochure released last month, entitled "Opportunities for Participation in the Artificial Kidney-Chronic Uremia Research and Development Program of the National Institute of Arthritis and Metabolic Diseases." Single copies are available on request from NIAMD, Bethesda, Maryland 20014.

Required 6 months' notice is given on the possible use of plenary powers by the International Commission on Zoological Nomenclature in connection with the following names, listed by case number [see *Bull. Zool. Nomencl.* **23**, pl. 2/3 (29 July 1966)]:

1642. Suppression of *Bryaxis schneideri* Kugelann, 1794; Type-species for *Bryaxis* Kugelann, 1794 (Insecta, Coleoptera).
1690. Neotype for *Megalichthys hibberti* Agassiz, 1835; Validation of *Rhizodus hibberti* Owen, 1840; Validation of *Holoptychius* Agassiz, 1839 (Pisces).
1732. Neotypes for *Anthocoris nigrellus* Zetterstedt, 1838; *Anthocoris nigricornis* Zetterstedt, 1838; *Lygaeus pygmaeus* Fallen, 1807 (Insecta, Hemiptera).
1741. Type species for *Phlaeothrips* Haliday, 1836 (Insecta, Thysanoptera).

Comments should be sent in duplicate, citing case number, to the Secretary, International Commission on Zoological Nomenclature, British Museum (Natural History), Cromwell Road, London, S.W.7, England. Those received early enough will be published in the *Bulletin of Zoological Nomenclature*.

Publications

An analysis of trends in the employment of **research and development personnel in the pharmaceutical industry** has been published by the Resources Analysis Branch in the NIH Office of Program Planning. The 27-page report presents a fairly comprehensive assortment of statistical information in terms of level of training, discipline, type of work, employment of women, and sources of new employees; it also compares the pharmaceutical industry's R&D expenditures with those of other segments of industry and of government. Data for the report was obtained from a survey which the pharmaceuti-

cal Manufacturers Association conducted among 100 member firms. "Trends in R&D Manpower in the Pharmaceutical Industry" (PHS Publication No. 1443), eighth in the PHS series of reports on "Resources for Medical Research," is available for 25 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20401.

The American Psychological Association (APA) has published a booklet called **"Standards for Educational and Psychological Tests and Manuals."** The 40-page handbook sets standards applicable to personality and interest inventories; to projective instruments and related clinical techniques; and to aptitude, ability, and achievement tests. It is a revision of two booklets published in the middle 1950's: "Technical Recommendations for Psychological Tests and Diagnostic Techniques" and "Technical Recommendations for Achievement Tests." The new booklet was prepared by a committee representing APA, the American Education Research Association, and the National Council on Measurement. Copies are available for $1 from the American Psychological Association, 1200 17th Street NW, Washington, D.C. 20036.

Scientists in the News

C. Gordon Little has been appointed deputy director of the Environmental Science Services Administration's Institutes for Environmental Research. He will continue as director of the Institute for Telecommunication Sciences and Aeronomy, at the Boulder, Colorado, laboratories of the National Bureau of Standards.

Milton Harris, recently retired vice president and research director of the Gillette Company, has been elected chairman of the American Chemical Society's board of directors, the society's highest executive position. He succeeds **Arthur C. Cope**, who died in June.

Niels K. Jerne, formerly chairman of the microbiology department at the University of Pittsburgh medical school, has become director of the Paul Ehrlich Institute, Frankfurt, Germany. He has been succeeded at Pitt by **Julius S. Younger**.

Neil Bartlett, formerly at the University of British Columbia, has joined Princeton University as a professor of chemistry. Bartlett, 33, has been widely honored for creating the first noble-gas compound, xenon hexafluoroplatinate.

The Federation of American Societies for Experimental Biology have elected **Kenneth M. Brinkhous** president. He is chairman of pathology at the University of North Carolina medical school.

Three biologists who had been on the faculty of Dartmouth medical school until this summer have joined the University of Pennsylvania. They are **Shinya Inoue**, professor, and **Gordon W. Ellis** and **Hidemi Sato**, associate professors of biology.

Recent Deaths

Alto Edmund Feller, 56; associate dean of medicine and professor of microbiology and internal medicine at the University of Virginia; 5 July.

Jacob Straus, 40; associate professor of biology at the University of Oregon; 3 July.

James W. Teener, 42; head of the space power systems project in the Johns Hopkins Applied Physics Laboratory's space division; 28 July.

REPORT FROM EUROPE

United States Looks at Swedish Shipbuilding Technology

London. The argument that the United States has much to learn from Europe about technological advance directly stimulated by the civilian economy draws strength from the U.S. Navy's investigation of shipbuilding at a highly organized and mechanized yard in Sweden.

The investigation grows out of a large U.S. Navy program of building support vessels and transports. It had been thought that many of these might be built in Britain to help offset the dollar cost of large fleets of American Phantom and F-111 jets being purchased for the British air force and navy. Indeed, Defense Secretary McNamara gave some support to this supposition in recent testimony to Congress in which he noted that construction costs are lower in British than in U.S. shipyards.

There was pleasure at these remarks in Britain, where the shipbuilding industry has been regarded as fragmented into too many small firms, technologically retarded, unready to properly survey the technical needs of customers, and burdened by fierce antagonism between workers and managers. The recent Geddes report on the shipbuilding industry recommended drastic concentrations of firms and a fresh approach by both management and labor; progress on both these items has already been reported.

But this British progress may have come too late to forestall action by the U.S. government which may concentrate the Navy shipbuilding program in America. Such a move would be based, however, on the requirement that U.S. yards drastically change their costly practices and adopt at least some of the remarkable new streamlined shipbuilding techniques tried out at the Arendal shipyard near the Swedish port city of Göteborg.

The chief stimulus to U.S. interest in these Swedish techniques is the Navy's need for about 20 "fast deployment logistic" ships able to move military equipment anywhere in the world at speeds between 20 and 25 knots. The orders for these ships will total about $1 billion in the next few years. A sum that large provides enough leverage to force significant improve-