GENERAL SCIENCE

Short Trained Personnel

➤ SHORTAGE OF scientists, technicians and engineers in this country is hampering this country's Point IV program and the United Nations' technical assistance program.

Point IV hopes to hire between 400 and 600 specialists of all kinds to go to 19 Latin American countries, the Arab states, Israel and, perhaps, the southeast Asian countries. UN, through UNESCO, expects to need about 30 men and women, in a higher category, before the next year is out.

Jobs range from the scientific advisory officer of the government of Ceylon to a position similar to that of an American county farm agent.

UNESCO needs such people as a woman expert in child psychology for Libya, a hydraulic and dam construction engineer for India, a chemical engineer for Chile.

Point IV hopes to recruit people who can teach illiterates to read, and then to brush their teeth. It also wants experts in soil conservation, forestry, land use, horticulture, water use, safety, child welfare and industrial education and lots of engineers.

UNESCO already has difficulty in recruiting Americans for this program. Point IV, which has not yet actively started recruiting, expects similar difficulties. Both point to the fact that most of their programs are centered in underdeveloped areas of the earth—places not suited to comfortable living. Both are aware of the increasingly critical shortage of this kind of specialized personnel in this country. However, both hope that, with diligent recruiting, they can get the proper kind of people to work for their programs.

By "proper kind of people" they mean men and women who combine scientific knowledge or technical skill with at least some of the attributes of the diplomat. They want people who can get along in the new cultural environments to which they will be sent.

Science News Letter, November 10, 1951

BIOCHEMISTRY

Blame for Baldness

➤ MEN GET bald because the male sex hormone stimulates oil-producing glands in the skin to change the amount or quality of the oil they produce.

This, briefly, is the new theory of the cause of baldness developed from research by Dr. Peter Flesch and associates at the University of Pennsylvania in Philadelphia.

The skin oil is technically termed sebum. When painted on the skin of rabbits and mice, all the rabbits and many of the mice lost their hair in 10 days.

Starting point for the sebum investigation was the fact that workers in plants making the synthetic rubber, neoprene, both in this country and in Europe, lost their hair temporarily without any other harmful symptoms. The rubber workers' hair loss was traced to six chemicals that are by-products in the manufacture of the rubber. Of the six, three are normally present in human sebum. These three are: 1. squalene, also found in liver oil of sharks and other fish; 2. oleic acid, a colorless fatty acid which is a constituent of most common fats and oils; and 3. linoleic acid, a fatty acid from linseed oil.

The same chemical grouping found in these depilatory agents also occurs in vitamin A. Physicians have found that excessive amounts of vitamin A taken over a long period lead to loss of hair in children. One adult case has also been reported. Dr. Flesch and associates found that vitamin A caused hair loss in their laboratory animals when painted on the skin, just as sebum does.

Dr. Flesch and associates hope for three practical results from their findings: 1. new depilatories for those bothered with excessive or unwanted hair growth; 2. a way to check baldness in humans; and 3. more complete knowledge of skin diseases including skin cancer. But they point out that fulfillment of these hopes will not come before much more work has been done.

Science News Letter, November 10, 1951

PHYSICS

Heavy Cosmic Ray Particles Copper, Bromine, Tin Found

➤ DISCOVERY THAT hearts of atoms heavier than any previously observed are bombarding the earth from outer space was reported to the American Physical Society meeting in Chicago by Dr. Herman Yagoda of the National Institutes of Health, Bethesda, Md.

Cosmic ray particles consisting of the charged nuclei as massive as copper, bromine and even tin are contained in the stream of radiation arriving in the stratosphere. While most of the cosmic radiation consists of protons, which are hydrogen atomic nuclei of tremendous energies, teams of physicists from the University of Minnesota and the University of Rochester about two years ago discovered they are accompanied by equally energetic heavy atoms of carbon, silicon, calcium and iron. Now Dr. Yagoda from new experiments with photographic emulsions carried to 110,000-foot elevations by giant plastic balloons has found even heavier atoms.

Emulsions about a hundred times thicker than on ordinary plates were used to capture the heavy atoms.

Science News Letter, November 10, 1951

ENTOMOLOGY

Predict Success in Fly Control if Sanitation Used

➤ MAN IS making progress in his battle against flies, and the "chances for future control are good," Dr. Ralph E. Heal, technical director of the National Pest Control Association, told that organization's annual meeting in Boston.

But we will have to give up our reliance on insecticides only for such control, he warned, and "return to sanitation as a major phase of fly control." This is because flies exposed to various insecticides build up a resistance to that chemical, and they pass this resistance on to their offspring. This resistance is not only to DDT but to some of the newer insecticides, such as methoxychlor, chlordane, lindane and dieldrin. The immunity to DDT can persist through many generations, as many as 30 or more, he said, about the equivalent of 10 years in New York City.

However, better sanitation and more skilled application of insecticides, plus such measures as screening, would give control over flies, Dr. Heal predicted.

Science News Letter, November 10, 1951

GENERAL SCIENCE

NSF Prepares to Spend Reduced Appropriation

➤ THE CUT in the National Science Foundation appropriation from the requested $14,000,000 to the approved $3,500,000 means reductions in the size of both the fellowship and the research programs, the NSF has declared.

About $1,500,000 will be spent on basic research in biology, medicine, mathematics, the physical sciences and engineering. Proposals for research grants are now being evaluated. Dr. John Field heads the division of biological sciences and is acting head of the division of medical research, and Dr. Paul Klopsteg heads the division of mathematical, physical and engineering sciences.

For training scientific manpower, some $1,350,000 will be spent. Balance of the money will go for development of a national scientific policy, for promotion of basic research and for other services.

Science News Letter, November 10, 1951