

GERONTOLOGY

Age Seen No Handicap in Manpower-Short Areas

► **AGE IS NO HANDICAP** if a person is prepared to work in areas where manpower shortages exist, but traditional opinions need to be changed to allow oldsters to get useful jobs.

There are and will continue to be shortages of teachers, social service workers and hospital workers, Matthew Radom of Rutgers University, New Brunswick, N. J., told the American Geriatrics Society meeting in New York.

Teachers' colleges should be working on programs to prepare men and women to be part-time teachers in fields in which they have already worked.

"These could range from visiting lecturers at universities to manual training in elementary schools," Mr. Radom said.

"To the greatest extent possible, all jobs should be paid ones. I propose that all older people who wish to work part-time be given the minimum wage established by law, regardless of type of work."

Charles E. Odell of the United Auto Workers, AFL-CIO, Detroit, advised the American worker to prepare himself for three or more career changes during his lifetime.

Paid employment for large numbers of persons past 65 years of age is hard to foresee, Mr. Odell pointed out, especially during a chronic unemployment period in which six percent or more of the American work force is affected.

An economic climate of full employment is needed, Mr. Odell said. Contrary to popular opinion, he noted, "most unions have stood for the elimination of mandatory retirement along with earlier disability retirement."

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NUTRITION

Study "Food for Peace" By Eating Some of It

► **THE FULL FLAVOR** of the Food for Peace program was disclosed to guests at a luncheon in Washington, D. C.

Delegates to the American Food for Peace Council's first national conference sat down in the Old Supreme Court Chamber in the capitol building to a noon snack consisting entirely of foodstuffs actually being sent overseas under the program, or being studied for possible inclusion in it.

The menu, worked out by caterers and Council officials, included the use of such established Food for Peace staples as corn meal and powdered milk.

Bulgur wheat, a newcomer to the program this year, was also served. Other treats for the 150 who attended were soybean milk and fish flour. Neither is in the program, but both are being considered.

Food for Peace Director George McGovern said bulgur wheat was chosen for distribution to replace rice, not currently in surplus. It can be boiled like rice, and has equivalent food values. The taste is

more on the order of wild rice than domestic varieties.

Bulgur, common to Eastern Mediterranean areas, is processed from top-grade wheat. Only the outer fibers are discarded, leaving nutritional values high. In the United States, bulgur gets limited distribution through specialty groceries, and is served in Greek and Armenian restaurants.

The Department of Agriculture is now negotiating a processing contract for 100,000 bushels of American-grown surplus hard red wheat, destined for shipment abroad after it is "bulgorized."

Officials have high hopes for the future of flour made from ground dried fish, which can be deodorized. Two or three spoonfuls supply a full day's protein requirements for one person at a cost of about 15 cents a pound.

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IMMUNOLOGY

Time Ripe for Polio Epidemic in Atlanta

► **THE TIME** is ripe for a polio epidemic in Atlanta, Dr. Alan W. Donaldson, deputy chief, Communicable Disease Center, Atlanta, told *SCIENCE SERVICE*. But thanks to the one-dose inoculations of 300,000 children from six months through 14 years of age given in a crash program, the paralytic plague is expected to by-pass the city.

The preventive purposes that lie behind all public health work came to fruition in the laboratory of the CDC, where more than 100 stool specimens of children were found to harbor type III poliovirus along with other intestinal viruses.

In the meantime, Dr. Donaldson said, there were seven reported cases of polio among children under five, four of them paralytic. The cases occurred early for Atlanta, in March, April and May.

The evidence pointed to a possible epidemic because Atlanta had had no appreciable number of polio cases for ten years, which is time enough for children to become susceptible. An epidemic builds up antibodies for a time only.

Dr. Albert Sabin of Cincinnati, whose live oral poliovirus vaccine has been approved by the U.S. Public Health Service, contributed 300,000 doses of type III vaccine. The children were fed cubes of sugar on which the liquid vaccine was dropped. And this will be the end of type III polioviruses.

But there are two other types of poliovirus, type one and type two, which can be stamped out with Salk vaccine. So the majority of the Atlanta population under 40 will receive the killed vaccine. The children who have had the Sabin vaccine will be doubly or triply protected with Salk inoculations.

Originally it had been planned to have a much smaller immunization program for two housing centers in the center of Atlanta, and it was pre-vaccination "baseline tests" that uncovered the danger of a widespread epidemic that could reach anywhere from 200 to 600 cases.

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IN SCIENCE

TECHNOLOGY

Normal Metals Used As Superconductors

► **NORMAL METALS** can be made to act as superconductors and to do so at specific, very low temperatures, four scientists report.

Superconductors are metals having the ability to conduct electric currents seemingly indefinitely when cooled to temperatures near absolute zero, which is 459.7 degrees below zero Fahrenheit. Only certain metals become superconducting.

But now scientists at Arthur D. Little, Inc., have found that a thin film of a normal metal not naturally a superconductor can be made to act as one when it is in contact with a superconducting metal film at the proper temperature. The assembly of the two metals in contact behaves as a unit having superconducting properties of its own.

The discovery raises the possibility that electronic design engineers may one day have available to them new superconducting materials and new methods of controlling the performance of these materials.

Superconductors have recently begun to play an important role in advanced electronic circuits where they can take the place of vacuum tubes or transistors for certain functions. The discovery that electrons tunnel through a thin dielectric between superconducting metals increased the range of possible uses.

Research results on superconducting films of "normal" metals are reported in the *Physical Review Letters*, 6:686, 1961, by Drs. Paul H. Smith, Sidney Shapiro, John L. Miles and James Nicol of A. D. Little's Cambridge, Mass., laboratories.

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SOCIOLOGY

Science Progress Alone No Assurance of Peace

► **SCIENTIFIC TECHNIQUES** and concepts are not enough to enable mankind to "breed out of the race the age-old desire for mutual destruction," Dr. Alan T. Waterman, National Science Foundation director, believes.

The growth of humanitarianism and individual maturity must accompany scientific progress if lasting peace is to be achieved, Dr. Waterman told Norwich University graduates at commencement exercises in Northfield, Vt.

"Science can only point out the possibilities which are within our grasp," he said. "Decisions to make these possibilities realities must come from society itself and, in particular, from the voter and his duly elected representatives."

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E FIELDS

ENTOMOLOGY

Malaria Mosquito's Hide-Out Found

► THE MOSQUITOES that carry most of the malaria in tropical Africa have stubbornly thwarted eradication attempts for years, but entomologists now believe they have found a way to spray them out of existence.

In most cases, malaria-carrying mosquitoes rest within the house of their victims after taking a blood meal. If the house is properly sprayed with insecticide, the resting mosquito usually picks up a deadly dose of poison and does not live long enough to bite again.

But *Anopheles gambiae*, the main peddler of malaria in Africa, does not normally rest in houses, research has shown.

Studies directed by Dr. A. Smith, Tropical Pesticides Research Institute, Arusha, Tanganyika, showed that this particular mosquito rests in dense patches of salt bush during the wet season from November to May. During the dry season from June to October, the salt bush loses much of its foliage and the mosquito takes to the crevices that open up in the hard ground.

Only if the salt bush is cut down during the wet season will the mosquitoes rest in artificial shelters such as trap boxes and houses, Dr. Smith reports in *Nature*, 190:1220, 1961. His findings indicate that spraying bushes and crevices will be more effective than spraying houses.

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PUBLIC HEALTH

Need Nationwide Attack To Check Food Poisoning

► A NATIONWIDE ATTACK is needed to control food poisoning cases, estimated at half a million to a million cases a year.

"It must be something I ate" typifies the public apathy of shrugging off the continued problem of food-borne infections, Dr. Leon Buchbinder of the New York City Department of Health writes in *Public Health Reports*, 76:515, 1961, published by the U.S. Public Health Service, Washington, D. C.

Sanitary control programs for water and milk have far outdistanced those for food, Dr. Buchbinder said, pointing out that support for such programs had been relatively easy to obtain because death or severe illness were known to result from infection from impure supplies.

The food control story is quite different, he said. Most food poisoning today is usually relatively mild, with deaths very rare. Usually adults are affected, and headlines carry no scare about dangers to children.

The bacteria mainly responsible for food poisoning are no less prevalent or less viru-

lent today than they have been in the recent past. These include the staphylococci, enterococci, *Salmonella* species and *Clostridium welchii*.

Dr. Buchbinder said equipment of proper sanitary design is available and in fairly widespread use. The Public Health Service ordinance for restaurant food service and the efforts of the National Sanitation Foundation have been helpful.

However, research in food control has been fragmentary and should be coordinated. Dr. Buchbinder recommended the formation of a national study committee.

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EDUCATION

Science Training Needed From Kindergarten On

► SCIENCE EDUCATION should start in kindergarten.

Schools have a responsibility to provide children with "an orderly intellectual experience" in science studies, included as "a regularly scheduled part of the curriculum in all grades," the American Association for the Advancement of Science believes.

A study report by the association calls for a ten-year sequence of coordinated science instruction, from kindergarten through the ninth grade, as part of a program to improve science and mathematics teaching at the elementary and junior high school levels.

No attempt should be made to develop a single program fitting all school systems, the AAAS said. Subjects and orders of progression should be chosen to meet existing situations.

Early scientific training is important, they said, because children form "their basic attitudes, patterns of thinking and modes of behavior" during early years. All persons should be equipped "for life in a scientific and technological society."

At the elementary level, teaching should have "flexibility and variety," without being limited to single disciplines such as biology, chemistry or physics. Basic ideas drawing on all sciences for examples should be presented within "a well-defined structure." Emphasis should be on "the spirit of discovery," rather than memorization of facts.

By the time he enters the tenth grade, the student should have a working knowledge of such aspects of science as "the distinction between operational definitions and theoretical definitions, the relationship between speculation and observation, and the displacement of one theory by another."

New course materials must be developed and new teacher training methods evolved, the report stressed. A national steering committee to direct the necessary planning was recommended. It would be composed of scientists, educators, learning specialists, teachers and supervisors.

The report, an outgrowth of conferences this year at Washington, St. Louis, and Berkeley, Calif., is published in *Science*, 133:2019, 1961. The National Science Foundation sponsored the study.

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MEDICINE

Have Few Children Following Adoptions

► THE OLD WIVES' TALE that women who adopt children immediately become pregnant was shown up for what it is by Dr. A. Lawrence Banks, obstetrician and gynecologist of Seattle, Wash.

Only two percent of 100 adopting women queried became pregnant, according to replies to a questionnaire from Dr. Banks, the North American Conference on Infertility in New York was told.

Ninety-four of the adopting parents replied in detail to Dr. Banks' questionnaire. Four became pregnant within a period of two to 22 months, he said, but after interviews with the four physicians who had taken care of the couples, he decided that only two pregnancies could be attributed to an emotional change.

Dr. Banks said he planned to publish additional findings from research he had done on 31 of his private patients in Seattle.

"Only one of the 31 patients who have adopted children has since become pregnant and this occurred five years after the adoption, which indicates no emotional connection."

Dr. Banks said in a random population of persons having difficulty in producing children, ten percent would be expected to have babies without treatment before the wives reached menopause.

Dr. Banks also participated in a panel discussion of the psychiatric aspects of infertility, in which he emphasized the part of the husband in failing to become fertile because of emotional factors.

"Perhaps the time has come for a single standard of examination for husbands and wives to determine why they appear unable to have children," he said. "There are fewer frigid wives than most persons think. At least half of the time, it is the husband whose emotional problems prevent the couple from having children."

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MINERALOGY

Five New Minerals Found in One Spot

► FIVE NEW MINERALS have been found near a small town in the Sierra Madre Mountains, Mexico.

This unusually rare find of so many minerals in one locality at one time is reported in *Science*, 133:2017, 1961, by Drs. Joseph A. Mandarino of the Royal Ontario Museum, Toronto, and Scott J. Williams, Scott Williams Mineral Company, Scottsdale, Ariz.

The new minerals, still unnamed, were found in a tellurium deposit near Moctezuma, Sonora, Mexico, and are compounds of lead, zinc, manganese, manganese-zinc, and iron.

Although about 30 new minerals are found each year throughout the world it is very rare to find more than one in one spot.

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