NUTRITION

India Diet Study Made

THE SOLUTION to India's dietary problems lies in increasing "protective foods" rather than stepping up production of rice, wheat and other grains.

This is the belief of Dr. Wendell Griffith, nutrition authority of the University of California, Los Angeles, who has just returned from a year's study of such problems in India, where he represented the United Nations Food and Agriculture Organization and the Children's Fund.

Indians need to produce and consume additional amounts of milk and dairy products, legumes (grams, peas, etc.), flour from oil seeds such as peanuts and sesamum, leafy green and yellow vegetables, citrus and other fruits for the vegetarians and eggs, poultry, fish and meats for non-vegetarians.

Multiple cropping and improved agricultural practices would give such increased amounts of protective foods.

An extensive nutrition education program is also needed to persuade the people to use more protective foods in their daily fare. Food habits are formidable, even those having no religious basis, and there must be a strong incentive for the consumer to accept changes in his accustomed diet.

An immediate need is something to counter protein malnutrition, especially prevalent among infants and small children. This cannot, in Dr. Griffith's opinion, await development of an adequate supply of safe milk.

One solution is the making of gruels for the children from legumes and peanuts. These foods are available to most families if mothers can be educated to make gruels from them.

Science News Letter, July 23, 1960

ASTRONOMY

Stars Cannot Hide Age

IF STARS were like many women in hiding their ages, they would have to hide from earthly telescopes, so ancient are they.

However, they cannot now hide their years because Dr. Bengt Stromgren of the Institute for Advanced Study, Princeton, N. J., has developed a new method for finding the ages and distances of stars.

It can be applied to hundreds of thousands of stars using telescopes no larger than the 36-inch reflector now in operation at the Kitt Peak National Observatory in Arizona.

From such observations will come much new information on the precise shape and composition of the Milky Way galaxy in which the sun and its planets are located. By applying the new method, astronomers should also learn about the arrangement in space of stars of varying ages and physical characteristics.

There is also the possibility, using the 200-inch telescope atop Mt. Palomar and the 120-inch at Mt. Hamilton, Calif., of investigating the physical similarities and differences of stars in the Milky Way galaxy compared to stars in other, nearby galaxies.

These are the predictions made by Dr. W. W. Morgan, director of the University of Chicago's Yerkes Observatory, Williams Bay, Wis., in Science, 132:73, 1960.

Dr. Morgan also predicted that the characteristics of the average stellar population for galaxies far beyond the Milky Way would be determined from studies of their shapes. Galaxies are clusters of countless millions of stars, such as the Milky Way, and there are unnumbered millions of galaxies.

The new method by which a star's age and distance are found depends on precise measurements of a star's radiation within certain narrow, especially selected regions of the rainbow-hued spectrum of light. From these measurements, Dr. Stromgren can determine the true brightness, or candle power, of the star. From its luminosity, its age can be determined.

Science News Letter, July 23, 1960

TECHNOLOGY

Glass Shields Made For Mercury Capsule

THIN SHIELDS of glass will be used on the Mercury capsule in which one of the U. S.'s seven astronauts will orbit the earth. Corning Glass Works at Corning, N. Y., reported that the firm is making the shields to protect transmitting and receiving antennas but permit their radio signals to pass. The firm's 96% silica glass will form a ring about the neck of the capsule. This glass will not break even when plunged from high heat into icy water.

Radio signals streaming back to earth through the antenna shields will carry critical information about the chosen astronaut's heart rate, blood pressure and body temperature. The signals will also send data on the satellite's operation.

Science News Letter, July 23, 1960

ARCHAEOLOGY

Skeleton of Indian Woman Found

AMATEUR ARCHAEOLOGISTS uncovered the intact skeleton of an Indian woman at the site of an Indian village once located along the Potomac River, about 25 miles north of Washington, D. C. The skeleton, the tenth discovered since last July by members of the Southwest Chapter of the Archaeological Society of Maryland, will be turned over to the Smithsonian Institution for further study.

Pioneer work has been done by these amateur archaeologists in uncovering material that will eventually enable experts to identify and describe a hitherto unknown Indian group—or perhaps two groups. At the level at which the skeletons were uncovered, potsherds, tools and arrowheads were found which definitely point to a woodland culture. Arrowheads and pottery found at a lower level were of a very different type, and indicate a transitional culture bridging an archaic and a woodland culture.

The transitional culture may date back as far as 1000 B.C. The woodland culture flourished, it is estimated, 500 to 1,000 years ago.

Science News Letter, July 23, 1960

TECHNOLOGY

Nuclear Turbine Planned For Electricity in Space

THE AIR FORCE has ordered a 300,000-watt nuclear-powered turbine for use in space—the largest space power project ever undertaken by the United States.

The system is planned to have a potential of being developed into a million-watt unit. Called "Spur," the unit will weigh about eight pounds per 1,000 watts of power produced—2,400 pounds for the first power station and 8,000 pounds for the million-watt unit.

Under the Air Force contract with Garrett Corporation's AiResearch Manufacturing Division of Arizona, the small atomic reactor will supply electricity for space needs. A turbine engine will convert the atomic energy to usable mechanical power.

Unlike conventional engines, the space turbine will constantly recircle liquid metal. The Atomic Energy Commission and the Wright Air Development Division in Dayton, Ohio, will jointly manage the Spur project.

Science News Letter, July 23, 1960

ACOUSTICS

Baffling Sound Problem Solved

ACCURATE PREDICTION of reverberation in large halls used for music, a problem that has puzzled acoustical scientists for 60 years, has now been solved. Dr. Leo L. Beranek, president of Bolt Beranek and Newman, Inc., Cambridge, Mass., found that the location and spacing of an audience, not just the number of persons in a hall, helps to forecast the correct reverberation time. Reverberation, the lingering of sound in a hall after the originating sound has ceased, is an important factor in the quality of a hall's acoustics.

Dr. Beranek and his associates studied more than 50 of the world's most famous concert halls and opera houses in 15 nations during the past five years. The best reverberation time for concert halls is from 1.8 to 2.1 seconds, they report in the Journal of the Acoustical Society of America, an official publication of the American Institute of Physics in New York.

Science News Letter, July 23, 1960