

jungle streams are warned by medical men to avoid the dangerous sting rays, electrical eels and the piranhas or cannibal fish. Heavily booted men show wary respect to blind worms, ants, hairy larvae and spiney plants.

Medical treatment of the odd mishaps which befall men developing South American resources, is handicapped by difficulty of obtaining and transporting supplies.

Most drugs were formerly supplied by Germany. With imports cut off, South Americans are increasingly dependent on United States drug manufacturers. Increased plant capacity has been developed in many countries, augmented by large shipments from U. S. laboratories.

Brazil and Mexico have taken over the assets of German pharmaceutical laboratories, and Nicaragua seized German drug stocks. In some countries prescription drugs obtained from the Nazis are still being sold, but American firms are also gradually taking over this trade.

Drugs and health workers are transported into the Amazon country by river boats. At six strategic centers along the way, hospitals are planned. Laboratories operate in the shipping centers of Belem and Manaus, for examination of mosquito larvae.

Plans for 50 to 100 clinics to treat the sick and to give advice in disease prevention and diet are also announced by

the Coordinator of Inter-American Affairs.

The program includes mining regions which supply United Nations war industry. Gold was the yellow lure for early explorers of our neighbor republics; now interest centers on less glamorous metals like lead, and manganese.

Biggest copper producing mine in the world is gouged into the Andes mountains 10,000 feet up.

Other mines have been developed into major supply sources of essential copper with the aid of United States technical skill and machinery. War demands have pushed output to a new high, including large-scale mining of low-grade ores. Accounts of this new development say that an American engineer, William Braden, used 2,500 oxen to drag the machinery up the Andes heights.

The Chilean Andes also yield quantities of nitrates, now going principally to United States industry for making explosives and other war products.

A great core of other undeveloped resources is veneered with modern civilization. For most South Americans still live within a hundred miles or so of the coast.

But American technology is supplying them with tools and medical science is making them strong. Thus a great continent stirs under the impetus of war.

Science News Letter, January 16, 1943



PARFOCAL WITHIN

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● Illustrated above are the elements of a parfocal ten-inch lens with a focal length of 25 feet. It was specified by the astronomical observatory which ordered it, that the lens should be parfocal for the C and K spectral lines, with a maximum difference of 1 millimeter (0.039 inch). As produced in the Perkin-Elmer plant the lens was actually parfocal within a quarter of this tolerance . . . one-fourth of one millimeter (0.010 inch).

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PUBLIC HEALTH

Vaccination Stops Smallpox

► THE SMALLPOX outbreak in Pennsylvania is nothing to get panicky about. It does, however, serve as a reminder of the importance of having oneself and one's family vaccinated, because successful vaccination gives protection against smallpox. That is the opinion of health authorities in Washington.

Latest reports to the U. S. Public Health Service show 52 smallpox cases in Pennsylvania and a total of 17 cases for the rest of the nation. The latter were scattered over five different states.

The Pennsylvania cases were in a community isolated by both geography and custom from other communities. The cases were mild. Vaccination was given promptly to thousands who, in the opinion of Pennsylvania state and city health officers might be in danger of getting the disease. Pennsylvania is one of the states requiring vaccination for school atten-

dance, so that much of the population has already been protected against smallpox. All these facts have kept health authorities generally from being unduly alarmed over the situation.

In some states and cities, health officers are urging all people to be vaccinated or revaccinated. This is thought to be a wise move, particularly in communities where vaccination has not previously been general and where there has been a large influx of possibly unvaccinated war workers from other parts of the country.

Vaccination or revaccination is also advised for persons who daily come in contact with people from all over the country, for example those working in large railroad stations and hotels.

The question of how far this smallpox outbreak will spread can be answered as follows: It will not spread to persons

who have been successfully vaccinated against smallpox. Unvaccinated persons who have come in contact with smallpox patients are in danger of getting the disease, because everyone is susceptible to it unless he has had an attack or been vaccinated.

Most people think of smallpox as a skin disease, but actually it starts and spreads like influenza. The disease is caused by a virus which invades the body through the nose and throat and during the first two days, before the skin rash appears, the patient has fever and a generally ill feeling suggesting an attack of gripe or 'flu.

The virus of the disease is spread through nose and throat discharges from the patient as well as through material from the skin spots after these appear. Crowding favors the spread of smallpox, as it does the spread of influenza or other diseases transmitted by nose and throat discharges. Unlike influenza, however, which develops very quickly, the incubation period for smallpox is eight or ten to 16 days, so that unprotected persons are not out of danger until at least 16 days following exposure to a smallpox patient.

Parents of the small children reported to have caught smallpox in the Pennsylvania outbreak evidently did not follow President Roosevelt's advice when, in proclaiming May Day as Child Health Day for 1942, he urged that all children over nine months of age be vaccinated against smallpox before the first of May, 1942. Doctors and health officers for years have urged that all babies be vaccinated against this dangerous, disfiguring disease before they are one year old.

A single vaccination in infancy, however, does not guarantee full protection against smallpox for life. The vaccination should be repeated on entering school and at intervals during later life.

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NUTRITION

Soy Flour Bread Tried

Soybeans contain over three times as much protein as an equal weight of meat, and some of the shortening can possibly be left out when soy flour is used.

➤ SOY FLOUR in bread may soon provide some of the protein lacking in meat-deficient diets. Part of the record-breaking soybean crop just harvested should be on American tables this year, some government experts believe.

Soybeans contain over three times as much bodybuilding protein as an equal weight of meat. Experiments have not yet indicated the exact comparative vitamin and mineral contents.

But rats living on a soy diet were still in top-notch health after seven generations. Nutrition was just as good as during similar tests on meat.

Present investigations will disclose just how Mrs. America will use this new food.

Soy flour has already been used to some extent by the Army.

Mixture of soy and wheat flours produces a well-flavored bread much improved in nutritional value. Some of the war-scarce shortening may be omitted when full fat soy flour is used, one report suggests. The baker can also use soy flour to replace dry skim milk, of which there is a shortage, at only a third the cost. Content of riboflavin and calcium is somewhat lowered by this procedure, however.

If soya were combined with enriched flour to make bread, the long-reputed staff of life would really be one of our most complete foods.

Impending milk shortages have fath-ered the suggestion that soy milk also be adopted. It would be the best replacement available although not a complete substitute. Use in this country has been confined to babies who are allergic to ordinary milk.

Technical difficulties make it unlikely that soy milk will soon be generally available, government officials warn. New equipment and production specialists are needed. Keeping qualities must be improved.

Then the soy protein must be made into a milk-like suspension. But when treated to remove objectionable flavor, the milk emulsion breaks and protein settles out. Until such problems are solved, it's still a food of the future.

Soups, meats and breakfast foods containing soya, are only a few of the other products which may eventually be provided for both the doughboy and housewife.

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ENGINEERING

About 3,000,000 Women Now in War Work

➤ ABOUT a fifth of the 14,000,000 employed women in the United States are now engaged in war work, and their numbers are expected to double by the end of this year, Mary Anderson, director of the Women's Bureau, U. S. Department of Labor, reported to the National Safety Council meeting in Chicago.

More women are now at work than ever before in our history, many of them "green" on the job and exposed to new accident dangers.

To safeguard their health and prevent lost time, authorities are experimenting with special clothes, safety gadgets and rest periods.

"Five or ten minutes away from the machine or the bench is not time lost," declared Miss Anderson. "It is more likely production units gained. Regular, brief rest periods are sound and simple safeguards against the fatigue which undermines efficiency and sets the stage for accidents."

Some tools are being made of lighter materials for women workers and do the job just as well. Other plant conditions are being adapted to the feminine touch.

War is revolutionizing the dress of millions of women. Ordinary street clothes are impractical on most jobs. The Women's Bureau has no rule-of-thumb standards, Miss Anderson explained, but encourages development of apparel adapted to the particular job.

This often includes safety hats, trousers, safety shoes and other items.

Industrial health and safety must go beyond the plant gate, however, Miss Anderson warned, because unsatisfactory living conditions and home accidents take a heavy toll in war work efficiency.

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