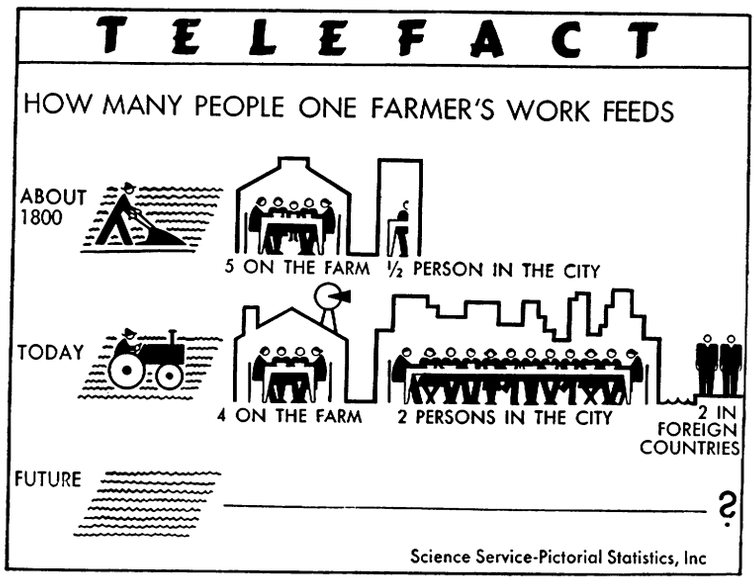
western oil fields where waste gas is plentiful and water scarce.

For Neuchatel, Switzerland, a large gas turbine is being built for emergency use. It will be installed in a rock tunnel where bombs cannot hit it. Its small size and use of air for cooling make this practical. A 2000 horsepower gas turbine locomotive only 60 feet long is being constructed for the Swiss Federal Railroad.

In this country gas turbines have been in use for over two years running on waste gases from oil refining with such success that more have been ordered for such use.

Dr. Adolph Meyer of Brown Boveri Co., Baden, Switzerland, has been the leader in gas turbine design and production, while Allis Chalmers Mfg Co., Milwaukee, is building them in America.

Science News Letter, July 29, 1939



PUBLIC HEALTH

Control of African Sleeping Sickness Promised

AFRICAN sleeping sickness, dreaded plague of tropical Africa, is rapidly being conquered by the chemical remedy, tryparsamide, and will probably soon be under "satisfactory control." This progress and the encouraging outlook for the future is reported (*Science,* July 14) by Dr. Louise Pearce, of the Rockefeller Institute for Medical Research at Princeton, N. J. Dr. Pearce was the first to show the beneficial effects of this drug on sleeping sickness cases in the Belgian Congo.

African sleeping sickness is caused by a germ called the trypanosome which is carried by the tsetse fly. It is a highly fatal disease, not to be confused with the encephalitis popularly called "sleeping sickness" in the United States and European countries.

The great value of tryparsamide over other drugs used to treat the ailment, Dr. Pearce points out, is that tryparsamide is effective as a cure in both early and late phases of the infection. Since it has been used in mass treatment the number of sleeping sickness cases has dropped markedly in various African colonies where efforts are being made to stamp out this age-old plague.

Other public health measures, directed against the tsetse fly and against uncontrolled movements and concentration of populations, are also playing a part in bringing the disease under control, but chief credit, Dr. Pearce indicates, belongs to the drug which cures patients and cuts down human sources of infection.

Science News Letter, July 29, 1939

BOTANY

Fleeting Chemical Discovered Necessary in Plant's Life

Finding That Wheat Seedlings Continue To Use CO_2 After Darkness Showed Intermediate Chemical Is at Work

DISCOVERY of a chemical that allows the green plant to inhale waste carbon dioxide out of the air was announced by the Smithsonian Institution.

This hitherto unsuspected substance is a go-between for carbon dioxide and chlorophyll, green coloring matter of plants. It seizes a molecule of carbon dioxide and delivers it to the chlorophyll. It is therefore one of the most important substances on earth as without it sunshine energy could not be trapped in vegetation.

Dr. E. D. McAlister, biophysicist of the Smithsonian Institution, was the discoverer during extremely delicate measuring of the amounts of carbon dioxide used by wheat seedlings. He found that plants continued to use carbon dioxide for a short interval after they had been plunged into darkness, which was contrary to conventional ideas about photosynthesis. He concluded that some intermediate chemical was playing an essential role.

The existence of the new chemical basic to life was thus demonstrated, but so fleeting is its existence that Dr. McAlister does not believe that it will ever be possible to isolate any of the stuff itself.

Chlorophyll, by the process called photosynthesis, enables the plant to use sun energy to manufacture out of water from the soil and carbon dioxide from the air the various hydrocarbons, such as cellulose, starch, etc., used by men and animals for food and other purposes. Coal and oil contain the sunshine of past ages trapped in this way. Our breathing and the burning of fire use oxygen and pour out carbon dioxide into the air, while photosynthesis manufactures oxygen for the air. Thus the new chemical believed essential to photosynthesis is one of the important links in the energy cycle of all life here on earth.

Science News Letter, July 29, 1939

● RADIO

Homer N. Calver, secretary of board of American Museum of Health, will be the guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Monday, August 7, 5:45 EDST, 4:45 EST, 3:45 CST, 2:45 MST, 1:45 PST. Listen in on your local station. Listen in each Monday.