

tury ago, Prof. Pearl finds. In 1840 for every 1,000 persons of these ages there were 1,084 younger or older to be taken care of; in 1930, for each 1,000 of the "reproducer-worker phase of life" there were only 880 persons besides themselves to be cared for.

PUBLIC HEALTH

"Grapes of Wrath" Migrants Get Help Through Association

MEDICAL help for the acute health problems of the "Grapes of Wrath" migrant agricultural workers in California and Arizona is being given as fast and far as possible by the Agricultural Workers Health and Medical Association, it appears from a report to the American Medical Association by its bureau of medical economics chief, Dr. R. G. Leland.

Nearly 38,000 migrant workers and their families have already been given medical, dental, hospital and other health care by this mutual benefit association, organized in May, 1938. Doctors, dentists, druggists and hospitals of California and Arizona, the Farm Security Administration, the California State Department of Public Health and the U. S. Public Health Service have cooperated in planning and carrying out the program. The Association is empowered to borrow money for paying doctors' and other bills and purchasing supplies, from the Farm Security Agency or other federal or state agencies. For the first year of operation \$952,597.97 was spent.

To instill into the minds and consciences of the mass of our people that their chief concern is the composition of the population may, Prof. Pearl said, be the principal duty of the American Statistical Association in years ahead,

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Headquarters of the Association are at Fresno, Calif., with regional offices in Arizona and as far north as Willows, Marysville and Santa Rosa, Calif. The personnel of these regional offices has followed the crops, in the wake of the migrant army, in order to be near at hand to serve it. At first member patients were referred to doctors' and dentists' offices in the vicinity, but now most of them are served in clinics staffed by doctors chosen by the county medical societies.

Influenza, pneumonia and other respiratory diseases and digestive diseases ranked high in numbers of member patients treated. Malnutrition and dietary deficiencies were fairly prominent among children. Babies were delivered, broken bones were set, infections, injuries and dental troubles were cared for. Services are primarily for acute sickness or injury, but when a chronic illness threatens the welfare of the entire family by laying up its breadwinner or the mother, such illness is treated.

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the theory that the structure of the Atlantic and Pacific basins may be more similar than heretofore supposed.

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Quakes Come in Groups

THE earthquakes that wrought worse havoc than war in Turkey were third in a series of four severe disturbances that occurred in widely separated parts of the earth in less than a week. Five days before, there were two quakes centering off the Pacific shore of Costa Rica and one in the northern part of the island of Celebes; five days afterwards a sharp shock was felt in southern California.

It is not uncommon for earthquakes to come in groups like this, with intervening periods of relative quiet. Why they should do this is one of the things that still puzzles scientists.

It is possible that one earthquake can set off another, even in a remote part of the earth, seismologists of the U. S. Coast and Geodetic Survey stated. This could happen, however, only when the second locality was "all set" for an earthquake that would occur later on anyway. If the rocks of the earth's crust were in the state of severe strain that precedes an earthquake and is relieved by it, even a slight additional push, such as might be provided by waves traveling through the earth's core, might act in the capacity of the proverbial last straw and precipitate the break.

Other "triggering forces" that have been invoked as possibilities include the tidal pull of sun and moon and the occurrence of large changes in barometric pressure over the affected area.

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SEISMOLOGY

Earthquake Gives Scientists Hint of Earth Structure

THE SEVERE earthquake in Turkey which destroyed thousands of lives and caused great property damage on the day after Christmas has provided American seismologists with new scientific evidence as to the nature of the layers of rock underlying the Atlantic Ocean.

Scientists at the University of Vermont have reported to the U. S. Coast and Geodetic Survey that besides the large surface waves, expected in any violent earthquake, their instruments detected a high speed type of surface wave which

is ordinarily observed only in earthquake shocks which reach the United States over pathways under the Pacific Ocean where there is little overburden or continental structure.

The arrival of this type of wave for the Turkey quake is taken to indicate an unusual disturbance in the deep basaltic rock of the earthquake area, say Coast and Geodetic Survey scientists.

The character and speed of the normal surface waves at the University of Vermont station also give added evidence to

ENGINEERING—CHEMISTRY

Steel Mills Are Run On Fabric Bearings

See Front Cover

CLOTH saturated with a synthetic resin and baked and squeezed under pressures up to 6,000 pounds per square inch formed the bearing for the roll neck of a steel mill stand shown on the front cover of this week's SCIENCE NEWS LETTER.

It is said then to be as hard and as strong—pound for pound—as the steel itself. The material is known as Micarta and is made by the Westinghouse Electric and Manufacturing Company.

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An air conditioning system protects rare violins in the Library of Congress.