

## GEOGRAPHY

# World Has No Ideal State But Big States Come Nearest

**A**N IDEAL political state—if the world had a single one today—would be lucky enough to have the following assets, laid down by a Harvard University political geographer, Prof. Derwent Whittlesey:

1. The ideal state would be chunky, rather than long.
2. It would have its densest population at the center.
3. It would have naturally marked barrier boundaries.
4. It would be self-contained.

Large nations come nearest to fulfilling these ideals, and little fellows may find their greatest safety in fusing before they vanish, is the warning seen in Prof. Whittlesey's new study of the world's political geography, "The Earth and the State," (Holt).

Pointing out that five out of six of the most powerful states in the world are rubbing elbows in Europe because of the unequalled mineral resources massed there, Prof. Whittlesey says that it is no wonder they feel crowded when trying to compete under high-speed, machine-age conditions. Europe's states were formed on a basis of nationalities, back in days of rural life, isolation, and snail's pace communication. Now, "quite possibly all the states of Europe west of Russia are too small to fit the conditions of the twentieth century."

As a prototype of the fusing policy, by which small nations may save themselves, Prof. Whittlesey cites Switzerland. German, French, and Italian groups merged to form the Swiss nationality, because of geographic and economic interests. Today, diminutive Switzerland itself is far short of the ideal size for an effective modern state, and mergers of small nations may have to be on a larger scale.

The United States itself may yet redraw the pattern of its states into the larger units of government that work more smoothly in modern conditions, Prof. Whittlesey foresees, but knowing how Americans ordinarily express themselves about state changes, he adds:

"Quite clearly it will take a revolution in the political affairs of the country to alter the present pattern of states."

In the past, the world's state lines have been almost fluid, and even a region such as the Italian peninsula bounded by sea and mountains has been politically unified for less than 75 years in the past sixteen centuries.

For the future, Prof. Whittlesey advocates shaping states to harmonize with the regional pattern of the earth, and for that, he adds, political geography provides the needed facts.

*Science News Letter, November 18, 1939*

crest of the dune with two teams.

The job is only half finished when the dune has been flattened, the Soil Conservation Service emphasizes. It is necessary then to tie the soil down by permanent plantings, preferably of tough, long-rooted grasses.

*Science News Letter, November 18, 1939*

## MEDICINE

## New Pellagra Remedies Have Been Discovered

**T**WO new chemical remedies for pellagra, Dixie's hard-times plague, have been discovered by a three-man research team, Drs. Charles E. Bills and Francis G. McDonald of Evansville, Ind., and Dr. Tom D. Spies of the University of Cincinnati and Hillman Hospital, Birmingham.

Nicotinic acid, however, continues to be a weapon with which doctors will treat and cure people sick with the rash and sore tongue and disordered minds and nerves of pellagra. But even when the effectiveness of this remedy was discovered, the possibility of other effective remedies was considered.

The two that have just been discovered are pyrazine -2, 3-dicarboxylic acid and pyrazine monocarboxylic acid. They are different chemically from nicotinic acid, but they cured 23 pellagra patients, Drs. Bills, McDonald and Spies reported to the Southern Medical Association. Whether these two chemicals are as good as or better than nicotinic acid as a pellagra remedy is now under investigation. Meanwhile it is pointed out that the effectiveness of the chemicals already demonstrated shows that "the body is adaptable in the use of building stones."

*Science News Letter, November 18, 1939*

## CHEMISTRY

## Industry Finds Increasing Use For Plastic Adhesives

**I**NDUSTRIAL adhesives are being made increasingly of synthetic plastics. Older kinds of adhesives such as casein (from milk) and animal glue are still employed for joining together large parts of wood furniture. But for small light parts of metal, phenol fiber, and ceramic materials, synthetic plastic cements are satisfactory. They avoid use of bolts, screws, etc. In making telephones and other communication apparatus, resin-cellulosic lacquer adhesives and vinyl and acrylate polymers give strong tough joints affected little by moisture, corrosion or mildew.

*Science News Letter, November 18, 1939*

## CONSERVATION

# Sandbags Help Get Rid of Dunes Destroying Farm Land

**S**ANDBAGS, used in Europe for defense in war, can be used in this country to undo mischief that is an indirect result of the last war, the U. S. Soil Conservation Service points out. Sandbags are used in abating sand dunes, that were formed by wind erosion during recent drought years.

The last World War is to blame for the dunes in a sort of House-that-Jack-built sequence: Price of wheat rose steeply in 1914. Farmers in the West broke sod on vast new acreage. Because the sod was gone, drought-winds blew

the fine soil away, and piled the remaining sand into dunes.

If a dune forms a sharp crest, the wind will keep on building it up. If the sharp crest-line can be broken, the wind will undo its own work and blow the dune away. One way of breaking a crest-line is to set a row of sandbags along it. As the dune subsides, the sandbags go down with it, keeping the wind at its now beneficial work.

Other methods for breaking dune crest-lines involve the use of a disking machine, and pulling a pole drag along the