



AS DE SOTO TRAVELED

Superimposed over a likeness of the famous Spanish explorer is a map showing his route through the Southeast as reconstructed from the latest evidence.

and Indian treasures, such as Peru had yielded, led De Soto on a wild goose chase over the entire Southeast. All he won was the fame of discovering the Mississippi River. Recently, science has been mapping precisely the famous expedition, identifying modern towns and landmarks with the Indian names and places that De Soto encountered.

Dr. John R. Swanton of the Bureau of American Ethnology has produced a map of the journey which he calls, in jest, the 1933 model. Next year, he says, there may be improvements, slight shifts of the line here and there as new information is gained. Dr. Swanton, noted authority on Indians of South-eastern States, said that his interest in the De Soto route was aroused by Col. John R. Fordyce of the Arkansas Historical Commission. Col. Fordyce has paced out De Soto's route in some sections, figuring the distance the Spaniards would travel each day and checking his computations by landmarks or Indian sites.

De Soto landed near Tampa, in 1539. Two years later, he reached the Mississippi and, crossing over, wandered still farther west. In 1542, when he and his band were returning down the Mississippi River, De Soto died and his body was lowered into the great river he had discovered. His followers later attempted to strike out west for Mexico City, but the venture failed.

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GEOLOGY

Unevenly Distributed Minerals Said to Threaten World Peace

Japan and Italy Present Problem in Lack of Minerals; British Empire and United States Best Supplied

UNEVEN distribution of minerals essential to modern civilization threatens the peace of the world, Prof. Richard M. Field, Princeton geologist, warned in a Science Service radio talk over the Columbia Broadcasting System. Until the geographical location of important metals, coal, oil, nitrates, phosphates and potash is seriously considered from an international point of view, Prof. Field predicted, there never can be a reasonable amity among nations, no matter what other factors may affect international affairs.

U. S. Government statistics show that 28 minerals constitute more than 70 per cent. of the gross value of the mineral raw materials of commerce. English speaking people in the United States and the British Empire have, Prof. Field said, "by one means or another gradually acquired the absolute or partial control of two-thirds of the essential mineral resources of the world."

The Japanese situation is the present outstanding problem in mineral resources, Prof. Field said. Japan has barely enough copper and zinc for domestic consumption, with an inadequate supply of iron, chromite and manganese. She is entirely dependent on other nations for all other mineral supplies, except for coal and petroleum, which she controls through mandates.

Italy, another first class power, is in about the same position as Japan, except that she has no control over petroleum and coal and is a little better off as to iron and lead. Both Japan and Italy are in a worse position than England would be if she were divorced from the British Empire.

Possible Trouble in Spain

Spain is described by Prof. Field as "a nation that is not making the most of her natural resources." This country, he predicted, may become a source of trouble in the international affairs of Europe. With the exception of certain ferro-alloys and petroleum, Spain has adequate deposits of the important min-

erals and an excess of copper, iron, lead, manganese and mercury for export.

Germany has inadequate supplies of metallic minerals but excesses of coal, nitrates and potash. France is only a little better off than Germany, Prof. Field said, with more aluminum and iron than she needs but no petroleum.

"In normal business times the United States has all the minerals which she needs within her own sovereign territory, with the exception of tin, platinum and some of the alloy metals and nitrates," he stated. "It is perhaps news to some that, in spite of the fact that the United States produces nearly 71 per cent. of the world's petroleum, in good business times she consumes nearly this amount. The only net excess of raw mineral commodities which the United States has for export are copper, coal, phosphates, and sulphur."

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BACTERIOLOGY

Germs Not Killed By Liquid Helium

EXTREMELY low temperatures, approaching those believed to exist in interstellar space, failed to kill bacteria in tests at the University of Toronto. Germs frozen for weeks in liquid helium, at a temperature of about 450 degrees below zero Fahrenheit, proved to be alive and able to multiply as though nothing had happened to them, as soon as they were thawed out.

These results are taken as indicating at least the possibility of the lower forms of life migrating through space, perhaps attached to bits of dust. They are of more immediate practical value as demonstrations of the fact that though cold will preserve foodstuffs it will not kill the germs of decay that lurk on them.

The experiments were performed by Dr. J. O. Wilhelm, physicist, Dr. H. Wastenays, biochemist, and Dr. W. L. Holman, bacteriologist.

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