GEOLOGY

In Canada's "North Country"

Two eras of the conquest of America's natural resources lie side by side in Canada's "north country."

From Cochrane, the railroad junction point that lies a hundred miles from the lower end of Hudson Bay, prospectors still go out into the "bush" to pit their knowledge and luck against nature's secretiveness. During the short summer season the great northern part of the Canadian province of Ontario is spotted with geologists, engineers, and plain self-taught mining men searching for rocks rich in gold, silver, copper or other valuable mineral. Hundreds of square miles of territory are still inadequately explored.

Yet great modern industrial plants and pleasing towns exist within a mere thirty-five miles of the place where these prospectors outfit. At Timmins there is the largest gold mine in the western hemisphere and the world's second largest. At Iroquois Falls there is a great paper mill that converts forests into newsprint paper at the rate of 525 tons a day. Over the Quebec border but not much farther away is Rouyn, a new copper-gold mining camp that is now in approximately the same state of development as that of some of the western mining boom towns forty years ago.

To this great mineral storehouse the Princeton University Summer School of Geology, traveling on the special car "Princeton," has paid a visit. Aided by the experts engaged in mining operations and with the cooperation of the Canadian Geological Survey, a selected group of students and professional geologists have inspected some of the mines, mills and the rocks which are now pouring forth wealth at the rate of about a hundred million dollars a year.

This mineral treasury is some 500 millions of years old at least, for it consists of rocks known to the geologist as "pre-Cambrian." Over the largest portions of the provinces of Quebec, Ontario and Manitoba there is a great shield of these pre-Cambrian rocks in which there have been found important areas rich in metals. Pre-Cambrian rocks are the oldest found on earth. In part of them there is no trace of life and in others the remains of a few extremely primitive plants and animals have been preserved. But the violent changes in these rocks, the rush of hot masses into them and the great pressures that such changes pro-

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SEISMOLOGY

FRANCIS ANTHONY TONDORF

Watcher of Earthquakes

There is an ancient Maya legend, which relates that when the gods gathered to make man, each gave the new being a gift, and the *teule* of the earthquake gave him—his pulse. Ever since that legendary time, man has been intensely interested in the great uneasy pulse of the earth, that is often so terribly destructive to him and his works, and among the most fascinating of the many fraternities of science is that of the seismologists, who keep their fingers constantly on that pulse and try to read the riddles of its stirrings.

There is perhaps no seismologist in America better known to the public at large than Father Tondorf. The first reports of an earthquake anywhere invariably mention his reading of its story on his instruments at Georgetown University. It hardly seems like a fully authenticated quake until the seal of his pet Galitzin seismograph has been placed on it. It is frequently stated, and so far never disputed, that he has the best-equipped station of its kind in America; and in addition to his indefatigable personal work in his own cave Father Tondorf has taken an active part in the organization of the Jesuit Seismological Association, which makes available to the scientific world the results of the coordinated readings of dozens of instruments in universities and colleges scattered over the United States.

Francis Anthony Tondorf was born in Boston in 1870. He early felt the call to serve in the double capacity of priest and scholar, and after preparation at Woodstock became a member of the Society of

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MEDICINE

Pellagra Epidemic Threatens

Permanent relief for the pellagra outbreaks that have threatened the South whenever times are hard, may be one of the outcomes of the Mississippi flood. A farming program of diversified crops is the chief preventive for the deficiency disease that has broken loose in epidemic proportions in the inundated territory, according to the U. S. Public Health Service experts who have just completed a health survey of the flood area.

Modern preventive medicine that successfully warded off epidemics of typhoid, malaria, dysentery and smallpox in the flooded states has been powerless to check the spread of this poverty disease of unbalanced diet. Dr. Joseph Goldberger, nutrition expert, and Dr. Edgar Sydenstricker, statistician, declare that 2,300 to 2,500 deaths may be expected in 1927, an increase of from one-fourth to one-third over last year. The number of cases, they estimate, will run up close to 50,000.

Fresh lean meat, milk, cheese, green vegetables and eggs are the ammunition needed to prevent and cure this disease that has been an

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PHYSIOLOGY

Synthetic Thyroid Hormone

The chemical composition of the active principle of the thyroid gland has finally been completely established by Dr. C. R. Harington and Prof. George Barger of University College, London.

These workers, who have received widespread recognition for their successful attempt to manufacture the hormone in the laboratory about a year ago, have definitely ascertained the position of the iodine atoms in the complex thyroxin molecule.

Clinical tests show that the synthetic product will reproduce the results of the natural thyroxin in cases of thyroid deficiency, the metabolic rate having been raised from minus 40 per cent, to normal in the course of a week by three or four intravenous injections of 4 to 5 milligrams on alternate days, it is stated in a report of the research to the scientific journal, *Nature*.

The production of thyroxin synthetically will assure a more standardized product and should have the effect of making the price much lower.