

cure, and that much more research along this special line would have to be carried out before any one could dare to try this or any similar compound on a human patient. Nevertheless, the mere existence of a compound with known definite growth-controlling powers from natural sources gives license to hope that this may eventually be one of the practical results.

Dr. Hammett and Dr. Toennies carried on their researches both in Philadelphia and at the Marine Experimental Station of the Lankenau Hospital, which is located at North Truro, Mass.

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#### MINING

### Enriching Ores Foreseen To Support Steel Industry

IF THE IRON deposits of the Lake Superior region are to continue to supply the American steel industry, a few decades hence it will be necessary to concentrate or enrich the iron ore before it can be shipped profitably to the steel mills, Frank J. Tolonen of the Michigan College of Mining and Technology reported to the American Institute of Mining and Metallurgical Engineers meeting in New York.

Billions of tons of ore are available if the iron content can be increased by artificial means so as to make it cheaper to transport. Mr. Tolonen suggested various methods of ore beneficiation:

1. Seemingly most practical is the concentration of the ore into a product suitable for blast furnace reduction. This is most important because of the vast capital investment involved as well as because the blast furnace process will undoubtedly continue to be the chief method of pig iron production.

2. Direct reduction of the iron oxide

into metal, followed by magnetic separation from the gangue.

3. Production of iron directly from the ores by leaching and electrolytic precipitation.

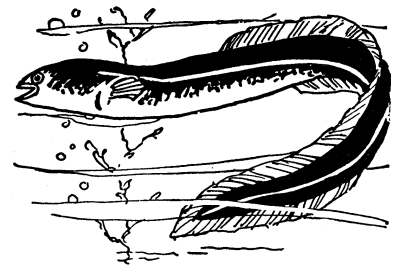
4. Production of pure iron oxide by chemical leaching and precipitation.

The use of heavy fluids as separating media in gravity concentration has shown encouraging results, Mr. Tolonen said. This method depends on the fact that a liquid will float material less than its own specific gravity, while heavier material will sink. Consequently, if a liquid can be found with a specific gravity a little greater than the gangue rock, it will float off the latter, while the iron particles will fall to the bottom without being mixed with worthless rock.

Such a liquid has been found, he continued, in acetylene tetrabromide, which has a specific gravity of 2.9, sufficient to float off the barren rock. Unfortunately the cost of such a solution is too high for use in practical ore dressing. Consequently the investigators borrowed an idea from oil drilling, and made an artificially heavy solution by introducing ore slimes into the liquid and using mechanical agitation to prevent their settling. This gave the requisite specific gravity.

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Discovery of new gold fields in Africa, 40 miles distant from older producing areas, was the outstanding accomplishment of geophysical prospecting during the past year in the opinion of F. W. Lee of the U. S. Bureau of Mines. Prospecting with a delicate magnetometer, the engineers located gold fields that promise to equal in size half of the present gold fields and rank in value with the famous Far East Rand.



Homer of the Eels

DR. JOHANNES SCHMIDT, Danish biologist and oceanographer who died in Copenhagen on February 22, occupied one of the most unique positions in the whole history of marine science. He was the Homer of the eels. For many years he followed the migrations of these strange but valuable fish, and solved riddles about their ways of life that had been standing for thousands of years.

Epicures in Roman days and nobles of the Middle Ages alike prized eels, but never knew where they came from. Because nobody ever saw an eel's egg or an infant eel, folk lore and superstition clustered thick about their long lithe bodies.

Johannes Schmidt set himself the task of finishing out the life history of the eels. For many years he followed their migrations, and at last traced their whole strange Odyssey. The adult eels, he found, swam from their European rivers most of the way across the Atlantic, and at last, in a deep part of the ocean north of the West Indies, laid their eggs and then died. The young eels began their return journey shortly after they were hatched, and with no guides at all found their way back to their ancestral rivers in Europe. How and why, are still mysteries.

Then Johannes Schmidt traced the migrations of eels of other continents. North American eels, he found, also migrate to deep water in the Atlantic, somewhat to the north of the breeding ground of the European eels.

Within the past few years, Dr. Schmidt's researches on the eels of southern Asia and eastern Africa traced similar routes of migration to breeding grounds in the Indian Ocean.

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