While the present instrument is now recording currents near shore at La Jolla, the scientist hopes soon to equip ships with similar ones.

According to Dr. McEwen, the giant waves in this region are caused by a combination of coastal oscillations and long sloping waves coming in from hundreds of miles out at sea.

"We don't know much about these currents yet," he said, "but once we have these instruments stationed in key positions along the coast we shall be able, at least, to forecast disasters."

Science News Letter, January 12, 1935

PHYSICS

Emulsions Under Microscope Stage Dramatic Performance

LIFE is not in either water or oil, as such, yet when the two are brought together in the presence of a substance that causes them to mix, or emulsify, they will stage a performance startlingly lifelike in its complexity. One of these vivid, quasi-vital performances by a non-living setup was described by Dr. P. A. Young of Montana State College, before the meeting of the American Association for the Advancement of Science.

Dr. Young used three things: water, petroleum oil, and a go-between or emulsifier known as cresoap. He related his observations:

"Through a microscope I saw a very interesting, rapidly moving drama when water touched petroleum oil containing the cresoap emulsifier. At the instant that they touched, a wall appeared between them. Then suddenly streams of oil flowed through holes in this wall and emulsified clouds of oil globules in the water, like a garden hose spraying drops of water into the air. But not all of the streams of oil formed globules, for some of the oil streams formed large masses that moved in the water, and resembled thunderhead clouds in the sky.

Moved Like a Snake

"The wall between the oil and water sometimes wiggled like a snake and then made knobs that cut off large globules of oil emulsion into the water. These globules were marvelous complex spheres of oil that contained spheres of water, and inside these internal spheres of water were very little spheres of oil that rapidly danced the Brownian movement.

"When the wall between the oil and water did not move, oppositely revolving whirlpools swirled in the oil and water beside the wall, and emulsified the liquids they drove through the wall. Another peculiar current in the oil was a cylinder that rolled as though it were on a spindle beside the wall.

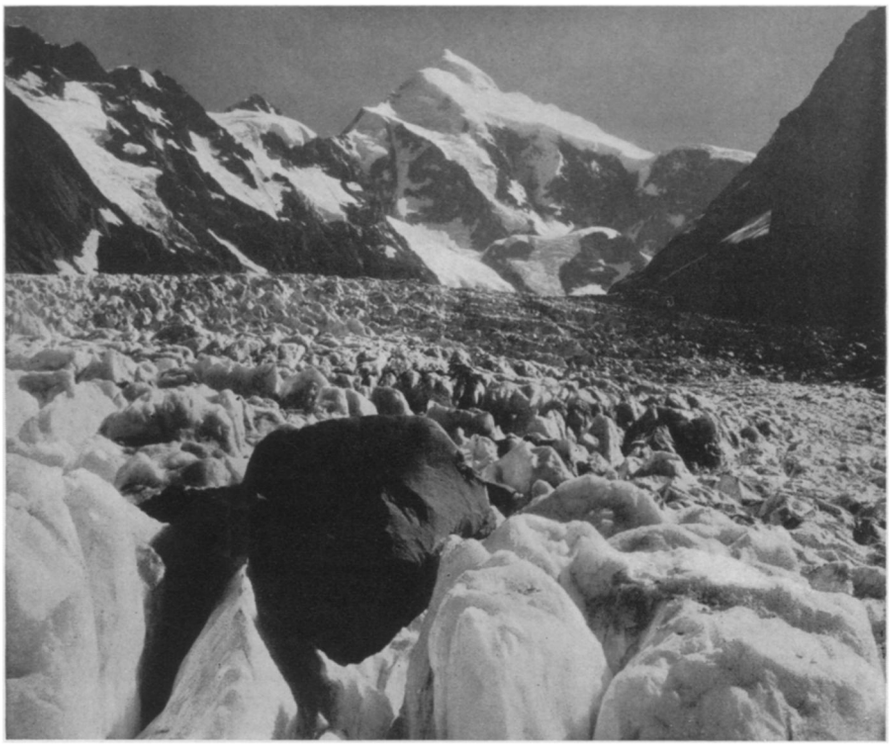
"Breaking of emulsions was spectacular, too. When a granule of salt dropped into the oil emulsion, wiggly solution lines darted out from the salt and attacked the oil globules. These suddenly exploded, ran together, and formed a lake of oil. Then a wall appeared between the oil and the salt water, with oil globules exploding and joining the lake of oil on one side of the wall, while cylindrical currents rolled and pairs of whirlpools swirled on the other side.

"Thus I saw how emulsions form and break, and so I learned more about the emulsions of protoplasm, dairy products, and petroleum."

The study of emulsions is highly important to chemists, physicists, and biologists, and in the practical industries and arts as well, Dr. Young explained. Many of our most important foods are emulsions: milk is an emulsion of fat in a watery fluid; butter an emulsion of watery fluid in fat. The sprays generally used to protect crops and orchards against insect enemies are emulsions. Protoplasm itself, the complex stuff in our cells that is alive, is an exceedingly complex emulsion.

Science News Letter, January 12, 1935

It has been asserted that Leonardo da Vinci was not truly ambidextrous, using either hand indiscriminately, but that he painted with his right hand and drew with the left.



A ROCK GOES RIDING

How some of the huge "erratic" boulders that lie on hillsides in the northern United States were transported on the humps of slowly creeping caravans of ice is strikingly exemplified by a modern instance, photographed by the Washburn Alaskan Expedition of the Institute of Geographical Exploration, Harvard, in 1934, at Crillon Glacier. The great dark mass of the boulder may move only a few feet, or even a few inches, in a year; but glaciers are very patient, and in the end carry their burden many miles.