ZOOLOGY

Floating Factories and the Fisheries

By Lewis Radcliffe

As Deputy Commissioner of Fisheries, in the U. S. Department of Commerce, Mr. Radcliffe writes on fisheries with much authority.

Fishing excursions of our boyhood days were largely limited to the places we could reach by walking or driving old Dobbin. The advent of the automobile and the era of good roads has made the inaccessible places accessible and now one may fish on the other side of the continent. Except for stocking his vessel with a fare of salt fish, the demand for which has now largely vanished, formerly the commercial fisherman ventured only such distances from landing ports as he could return with a stock of fresh fish. Somewhat tardily the fisherman is seeking the aid of science—engineering, technology and chemistry. Thus he is developing ways of greatly expanding his sphere of operation. This effort to make available more distant sources of supply is most commendable.

The better insulation of the holds of the fishing vessels and the development of refrigeration machines suitable for installation and operation on board ships have greatly increased the distance the fishermen may go from his home port. California fishermen are enabled to take much greater toll of the fish supply off the coasts of Lower California; salmon are brought to this country from Kamchatka, the French have built a vessel for operation off the African coast and other European countries with a diminishing supply in the North Sea and around Iceland are now drawing upon the fishery resources of Greenland. The day is at hand when the fishermen may supply our table with aquatic delicacies from the remote corners of the earth.

Norwegians have perfected whaling ships capable of operating in the Antarctic, thousands of miles from their home port. The ship is fitted with a false bow which can be tilted downward into the water to serve as a runway up which one of these huge mammals may be drawn to be cut up. Machinery aboard extracts the oil from the blubber and converts the carcass into fish meal. These ships are independent of a land base and having filled their storage tanks with whale oil which is in special demand by soapmakers, may steam to whatever world port holds forth the best promise of a profitable market for their cargo. In recent years the number of whaling companies has increased rapidly and no ocean area is exempt from whaling operations. In excess of 10,000 whales are killed annually, the maximum yield of oil being reached in 1923, amounting to 44,000,000 gallons. Millions of gallons of whale oil now find a ready market in this country.

This freedom of operations without restraint on the high seas has aroused the fear of intelligent observers that whales may soon become commercially extinct. The only possible control of such operations must be found in international agreement. Such a solution is now being sought by no less

(*Just turn the page*)

PSYCHOLOGY

Tells How Mind Works

The scientific investigator should apply his science to the improvement of himself, Dr. William E. Ritter, president of Science Service, declared in a lecture before the School for Social Research in New York. Dr. Ritter, who spoke on how the scientific investigator uses his mind, stated that the conduct of human beings is about the most important subject for scientific research.

The trained scientist uses his mind as effectively as the opera singer uses his voice, or as effectively as the circus performer handles his body, he pointed out.

The scientist, who is often pictured as cold and matter-of-fact, needs imagination as much as the artist does, and would be helpless without it, Dr. Ritter said. The scientist, however, is bound by the rules of his game far more rigidly than the artist, because he must check the imagined things against real things more rigorously than the poet or novelist.

"This ability to use the mind for framing imaginary or hypothetical answers to questions, and then to work tirelessly year in and year out, if need be, to prove whether the imaginary answers do or do not correspond to the objective realities in the case is exceedingly far-reaching in its significance for the discovery of truth, and for human welfare," he stated.

The investigator must train himself intensively if he is to be a specialist in using his mental processes and his sight, hearing, and other senses, and if he is to direct his interests and emotions toward scientific achievement, Dr. Ritter showed.

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PSYCHOLOGY

Apes To Talk With Fingers?

A chimpanzee might be taught to talk with its fingers, as deaf people talk, more easily than it could be taught to imitate sounds of human speech, in the opinion of Dr. Robert M. Yerkes and Margaret S. Child, of the Institute of Psychology at Yale University.

Several scientists who have observed and studied higher apes have tried to teach them to say words, but without much success, these psychologists state in reporting in the *Quarterly Review of Biology* what is now known about anthropoid behavior.

"Perhaps the chief reason for the ape's failure to develop speech is the absence of a tendency to imitate sounds," Dr. Yerkes explains. "Seeing strongly stimulates to imitation, but hearing seems to have no such effect."

He believes that the sounds made by apes are not language, but are primarily emotional expressions, which are not learned by imitation.

A French scientist, Louis Boutan, who observed a female gibbon for five years, has concluded that a young child who has not learned to speak, works like the gibbon. A child who is beginning to talk no longer works like the ape but directs its efforts along a definite line, like a man. The difference, according to this investigator, is not due to the age of the child, but the development of language, which the ape lacks.

Both scientific and popular interest in the higher apes has increased steadily and greatly in the first quarter of the present century, the psychologists report.

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ENGINEERING

Forty-Knot Liners

New York to Cherbourg in four days, to Naples in five days, and Italy to Buenos Aires in seven days, is the prospect of Italian shipping interests. Two vessels capable of forty knots, which would enable these times to be made, are now being contemplated. They are to be called the *Rex* and the *Dux*, and are to have a displacement of 35,000 tons each. According to a statement attributed to Premier Mussolini, these ships will be possible as a result of a new and secret invention in machinery, which will give power without vibration. The premier also stated that only one class of passenger will be carried on these ships.

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