FOUR MORE SATURDAY MOVIES ARE OFFERED FOR CHILDREN

The Raymond Foundation will continue its annual Spring Series of free motion pictures for children on Saturday mornings through April in the James Simpson Theatre of the Museum. The four remaining programs begin at 10:30 A.M.

Children may come alone, accompanied by adults, or in groups from schools, etc. No tickets are needed.

Following is an outline of the programs:

April 7—SPRINGTIME IN HOLLAND
Also a cartoon

April 14—SUNRISE SERENADE
Strange dances of well-known birds
Also a cartoon

MOVIE DAY AT THE MUSEUM

Youngsters reflect avid interest in Saturday morning programs of the Raymond Foundation

April 21—TRAILSIDE ADVENTURES
In the Chicago region
Talk by Lorain Farmer

April 28—FAVORITE LEGENDS AND FABLES
Also a cartoon

Another series of children's movies will be given on Thursday mornings in July and August.

SHARK-LIVER OIL USED IN 'BAROMETERS'

BY LOREN P. WOODS
CURATOR OF FISHES

THE FACT that shark livers are rich in oil is known to fishermen wherever sharks are caught. The livers of certain kinds of sharks are larger and contain more oil than others. Within the past ten years the oil from the liver of certain sharks living along the Pacific Coast of the United States and Mexico has been found to be especially rich in Vitamin D, and the shark fishery for this purpose is of considerable importance.

Among less generally known uses of shark-liver oil is that employed by ornithologists to concentrate a variety of oceanic birds into a relatively small area so that the birds may be collected. A shark liver is allowed to macerate in a tub. The collector then puts out to sea, splashing a dipper full of oil and broken-down liver tissue into the water every yard or so, thus forming a slick or "petrel trail." After the oil is all gone, he has but to return along his baited trail and shoot the birds that gather from far and wide.

The ichthyologists of the Bermuda Deep-Sea Expedition of this Museum learned of an entirely unexpected use for the abundant liver oil of the nurse-shark (*Ginglymostoma*) in the bottle "barometer," the aid and guide of all Bermuda sailors and fishermen. To prepare a shark-liver-oil-"barometer," one obtains the fresh liver usually of a nurse-shark or one of the other varieties of small sharks common in the waters about the islands. The kind of shark apparently is not so important as the condition of the liver, which must, according to all accounts, be white or at least pale in appearance.

To extract the oil the liver is either hung in a cloth bag and the oil allowed to drip out or the liver is boiled and the oil squeezed out. A small quantity of the liquid thus secured is then placed in a six to ten-ounce bottle and corked, although a screw-top bottle apparently works just as well. Directions given by some are that the bottle must be hung in the sun, by others that the "barometer" will work just as well no matter where it is placed.

Liver oil that is extracted by either of the two methods described above contains a considerable amount of white flocculent precipitate in suspension. In a very short time this white matter settles out, leaving the clear pale-yellow oil above. Now the "barometer" is ready to work. It is believed that whenever the weather becomes unsettled a fine cloud of the precipitate will rise into the clear oil. If the bad weather continues for some time, the fine cloud will become murky. Hurricanes are said to produce a rapid and violent reaction of this type. When fine weather is once more returning, the oil is quickly as clear as the sky.

The actual value of this "barometer" as a forecaster was not ascertained because only two (one made by the drip process and one by the boiling method) were under my observation for only a short time. During this time there were two periods of bad weather, both coming on very rapidly. On each occasion the storm glasses reacted as expected by becoming cloudy, and they cleared again with the gradually clearing weather. But the change came on so suddenly that the question of forecast was not settled.

From several Bermudians questioned no explanation was forthcoming concerning why the storm glass works. It was suggested that the reaction that occurs is brought on by change in the atmospheric pressure and that the material is sensitive to this change. How this could be possible when the reacting system is tightly sealed in a glass bottle is not explained. However, in spite of lack of explanation, many Bermudians have far more faith in their shark-liver oil than in the official weather forecasts.

To call any sort of weather-sensitive device a barometer is a common practice. Strictly speaking, a barometer is an instrument for recording changes in atmospheric pressure. Here in the United States there have been produced instruments consisting of a thermometer alongside a sealed glass tube filled with a mixture of alcohol and water with a small amount of dissolved gum camphor to which has been added some ammonium chloride and potassium nitrate. The technical term for such an instrument is "baroscope." With changes in temperature the amount of precipitate changes regardless of whether or not the temperature change is accompanied by rain or storm. One of these instruments was carefully observed during the changeable weather of January and February, 1950. It was found that with a drop in temperature, regardless of other weather conditions, the amount of precipitate increases and the clear upper fluid becomes cloudy exactly as did the shark-liver oil. In spite of belief and the use of words like "barometer" and "baroscope," atmospheric pressure evidently does not have anything to do with the changes in the solution. Thus the conclusion arrived at is that such instruments are interesting from the standpoint of folklore but are apparently useless as weather forecasters.