

oceanographic research vessels, a powerful icebreaker to penetrate through the ice, and another type ship, which need not necessarily be an icebreaker, to study Antarctica oceanography away from the ice.

We consider this to be particularly important in view of the international agreement made at the Hague meeting which called for a coordinated international attack. We hope to send our resolution very soon to the Government, asking that these ships be made available and not have any operational duties which might interfere with the scientific mission.

I might add in that connection that the Soviet ships, once they have unloaded their cargo, are completely free for scientific work. They do not have to do any further operations. As a result, in the past few years the Soviet icebreakers in the Antarctic have taken perhaps more oceanographic observations than the rest of the nations combined.

The CHAIRMAN. That certainly is interesting information. We certainly would be interested in the progress that you are able to make with your recommendation.

Mr. O'HARA. Do we not have any icebreaking operations up there or icebreaker ships at all?

Dr. WEXLER. We have had four icebreakers in the Antarctic. Three of them were on the Ross Sea side where Little America is and the other is on the other side, the Weddell Sea side, to pave the way for the Ellsworth supply.

These ships have been extremely busy. They are primarily there to take care of the operational aspects, the unloading of cargo and men. They have had little opportunity to do as much scientific research as oceanographers would like to have done in that area. They have done a fair amount of work and it is to their credit they have been able to do that much taking into account their tight operations.

Dr. ONISHAW. One should bear in mind with respect to the reference to the Soviet ship, that it is in fact a floating oceanographic laboratory. Half of the ship or some such portion is devoted to laboratory facilities. This accounts for their ability to do extensive oceanographic work in that region as well as in other regions.

We do not have a comparable ship that is a floating laboratory and that can operate in the Antarctic waters.

Mr. O'HARA. To what extent do they give us any scientific data?

Dr. ONISHAW. Their information will be available to us within the IGY program. As this new international program after the IGY develops, the arrangements will be similar; that is, the data will be made available. As a matter of fact, perhaps Dr. Wexler wants to expand on this. In oceanography the international plan calls for really studying the waters near the continent, all around the continent, and there are some very interesting scientific problems that Dr. Wexler is very familiar with.

Dr. WEXLER. A month ago in New Zealand, at the original suggestion of Dr. Gould, when he passed through there a year ago, there was held a New Zealand Antarctic Symposium. All the members from the 6 or 7 countries that were able to come to New Zealand had a very interesting symposium. The Russians sent their ship, the *Ost*, to Wellington. It was thrown open to inspection. The people who attended that meeting reported very favorably on the laboratory