

**Dr. Nansen Off
To North Pole
By Airship Soon**

The Distinguished Danish Explorer, Peter Frenchen, Who Is to Accompany Him, Writes of the Methods and Objects of the Coming Expedition

"The North Pole has been reached by dog sledges, aeroplane, and airship. We know what the future will assure the expedition and the physical suffering incident to a trip to the pole, for there are no latitudes to be gained there and no fame awaiting the returning explorers."

"Not only the methods but the aim of polar explorations have changed in recent years. Modern inventions have given us new means of transportation and new means of communication with every point of the globe. At the same time old problems have arisen and urgently demand solution!"—Peter Frenchen, in *The American-Scandinavian Review*.

The world this year, if all goes well, will have the great thrill of a fresh Arctic Nansen expedition to the North Pole by airship. It is hoped, but not certain, that the intrepid world will be present, and we quote from "Peter Frenchen" in a remarkable explorer himself, who writes in *The American-Scandinavian Review*, showing what the expedition hopes to accomplish, but how it will be done:

"As persons, most people know, we are lost in the immediate vicinity of the North Pole but there is an immense ocean always covered by ice," says Peter Frenchen. "Soundings have revealed a depth of more than three miles. Formerly it was supposed that the Arctic Ocean was rather shallow, but this was due to the fact that the positions had not been far enough away from the coast to reach the greater depths. Navigation was difficult and long trips were laborious.

The Soundings of the Arctic Waters

"Nansen knows that the so-called 'coastal' ledge extends for a distance of about 200 kilometers out from the coast of North America and Asia, and since it has a depth of only 100 to 200 meters, but where it comes to an actual polar basin he gives this depth of immense depth. The actual boundary between continental and polar is therefore not the visible coast, but the rim of this bottomless ledge which, according to the famous German scientist Professor Wegener, is slowly changing."

"The sounding of the Arctic waters will be of great interest, but it will be difficult task. Instruments have now been constructed by means of which these soundings can be made from an airship. If the waters are open and the airship is submarine, a telephone membrane which is combined with a microphone in the airship can be lowered to the surface of the water in moments of an electric wire."

"If a bomb is dropped on the surface of the water, which can easily be done by means of oblique, the sound will be carried through the water to the bottom. It will then be picked up again by the echo, and will reach the telephone membrane on the surface of the water. By measuring the time between the discharge of the bomb and the return of the echo, the depth of the water can be determined, assuming we do know the speed of the sound through water." The telephone membrane on the surface of the water measures the distance between the discharge of the bomb and the return of the echo, which then proceeds to the next one in the ice. On the other hand, it is found expedient to establish an observation post in winter quarters on the ice. It is easier to lower from the ship than houses, and provision in spots that would have been inaccessible to any other means of transport. Even the most delicate instruments can be dropped by parachute if they are only carefully packed, and it would not be difficult to lower men and take them to an airship by means of hoisting apparatus."

Now Ready for the Pole

"A very important congress was held in London a few days ago to prepare for such a polar exploration. The difficulties that would beset any one country, more particularly one of the smaller countries, in sustaining the expense of this costly airships that will be required by the explorations of the future, an international association called the Aero-Arctic was formed. This association has for its aim the continued study of the polar regions by all the various means at our command, and to this connection attention is to be turned to the airship as the only means of transportation that can be used in the kind of research work now contemplated."

"As an airship is not formed with the idea of merely making a dash for the pole, it is proposed to continue its voyage and go out and to establish permanent meteorological stations around the pole in different regions, from which communiques of reports can study special problems. The reader will be given to the world, and not be whitewashed in a selfish or ungracious spirit."

"It is only fair to ask, What can be accomplished by these dangerous and expensive expeditions? Are they worth the cost? Let me first consider the word 'dangerous.'

"It cannot be denied that to the Hyman General Nobile's adventure with 10 years to come stand as a discouraging example. People will reason that one airship is very much like another, and what may befall one may befall another."

"To this I will answer that there is absolutely no comparison between the Halla and the airship which the German government is now constructing and will put at the disposal of the Aero-Arctic next year. This ship, with a length of 250 meters, a width of 32 meters, is six times a bit more as large as Nobile's. Inside the balloon

there are seventeen enormous compartments which are entirely separate from one another, so that if one or more of them should break, sailmakers with gas-masks can enter and sew them up so that they can again be filled with gas from the compressed supply carried by the airship. Underneath there are five gondolas all connected with the balloon body. A broad passageway between the compartments leads to staterooms, which are furnished with about the same degree of comfort as the berths on a railroad train."

"The greatest of airships in the Arctic regions has hitherto been the one that forms by the condensation of vapor on the balloon body. So far no means have been found to prevent this formation; but it must be remembered that, while the surface exposed to the vapor increases with the second power as the airship grows larger, the volume and consequent carrying capacity increases with the third power. Thus the larger airship will have a better chance of making its way than the smaller ones."

"An experienced crew of thirty-five men with the most skillful leaders to be found in Germany has been selected. In addition the airship will carry fifteen scientists. All that human foresight can do to ensure safety has been done, and I believe that any accusation of undue risk can be refuted in advance. It may be remembered that the failure of General Nobile's trip was anticipated and foreseen by many aero-technicians, and I think here is no reason to believe that his trip will be repeated."

"But what is the purpose of the expedition, and what can be gained by it? These are questions that naturally and with justice are asked."

To Make More Accurate Weather Forecasting

"In this era of the radio, everyone may have observed that the weatherman and his forecast are no longer a standing joke. The intelligent farmer, the fisherman or shipowner, and the general public all take into consideration the weather predictions in making their plans, and yet we do not possess the meteorological instruments which we shall no doubt have in the future."

"In prognosticating the weather it is necessary to know conditions that installs a heating system in his house must know, not only the heating power of the radiators, but also something about the effect of their cooling apparatus in the earth's heating system, and they largely determine the currents in the air as well as in the ocean."

"When fixed bases have been established round about the pole and when we have an observatory on the ice above the pole itself provided with short-wave stations, which maintain constant connection with the outside world, we shall, of course, be able to make our predictions with far greater accuracy. Indeed, we shall have systematic and almost infallible guides to knowledge of what the weather will be in the future."

"We are justified in expecting results that will slowly raise the structure of human knowledge and make it of value."

"The new exploration will require less courage and perseverance than the old, but the hazardous adventures of the past! All honor to the past, for it is on a basis of the past that the specialists of today must build. The many who perished in the ice did not die vainly; they made the beginning without which no great work is possible."

THE SEVEN YEARS OLD CODFISH

"Another important problem which knowledge of the polar regions will help us to solve is that of the fisheries. An ordinary codfish when it is caught is usually about seven years old. Where has it been and what has happened to it in these years? What happens carry it toward the fisherman's net, and why is it that sometimes the fisheries suddenly fail where they have formerly yielded an abundance?"

"It is a well-known fact that all plant life requires light to blossom and plenty, but the entire polar basin is covered with ice so thick that no light can penetrate, and consequently the organic matter which is carried out into it by the great Siberian rivers is arrested in its growth. Small primitive plants called diatoms are carried by the ocean currents close up under the ice where they stagnate because the light is shut out. Great masses of algae and microscopic plants are carried in here daily, but cannot develop and grow."

"Ocean currents move the water and the stagnant plant life with it. They are carried over the pole and its vicinity, but nothing happens there. The organic life is still dormant."

"Then, suddenly, as the powerful ocean currents convey the masses of plant life from under the ice out into the open water of the north Atlantic Ocean, there is a tremendous, almost explosive development. All the dormant plant life bursts forth, and becomes active. First there are small drifting organisms called plankton, which feed on the diatoms. Next appear crustaceous animals which are pursued by the crustaceous animals. Consequently we find enormous food fisheries south of the ice regions around the pole. Then come the seals which live on the fish, and then the whales, and at last even man joins in the pursuit."

"When we think of how large a proportion of humanity depends more

on the Arctic for its food,

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