

Dr. Nansen Off To North Pole By Airship Soon

The Distinguished Danish Explorer, Peter Freuchen, 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 it looks like, and probably no one in the future will assume the expense and the physical suffering incident to a trip to the pole, for there are no laurels to be gained there and no fame awaiting the returning explorer.

"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 any point of the globe. At the same time new problems have arisen and urgently demand solution."—Peter Freuchen, in *The American-Scandinavian Review*.

The world this year, if all goes well, will have the great thrill of a fresh Dr. Nansen expedition to the North Pole by airship. It is hoped that contact with the outside world will be possible, and we quote from Peter Freuchen—he is a redoubtable explorer himself—who writes in *The American-Scandinavian Review*, showing not only that the expedition hopes to accomplish, but how it will be done.

"As perhaps most people know, there is no land in the immediate vicinity of the North Pole, but there is an immense ocean always covered by ice," says Peter Freuchen. "Soundings have revealed a depth of more than 4,000 meters. Formerly it was supposed that the Arctic Ocean was rather shallow, but this was due to the fact that expeditions had not been far enough away from the coast to reach the great depths. Navigation was difficult, and sledge trips were laborious. The sounding of the Arctic waters

"Now we know that the so-called continental ledge extends for a distance of about 200 kilometers out from the coast of North America and Asia, and that it has a depth of only 100 to 200 meters, but where it comes to an abrupt end the actual polar basin begins. This basin is of immense depth. The actual boundary between continental and ocean is therefore not the visible coast line, but the rim of this submerged 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 a 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 stationary, a telephone membrane which is connected with a microphone in the airship can be lowered to the surface of the water by means of an electric wire.

"If a bomb is discharged on the surface of the water, which can easily be done by means of electricity, the sound will be carried through the water to the bottom. It will be thrown back 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. Inasmuch as we know the speed of the sound wave through water, the electric wire is pulled up again into the airship, which then proceeds to the next opening in the ice.

"If, on the other hand, it is found expedient to establish an observation party in winter quarters on the ice, it is quite feasible to lower from the airship men, 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 up again into the airship by means of rope ladders or hoisting apparatus.

Not Merely a Dash for the Pole
"Recently a congress was held in Leningrad to prepare for such a polar expedition. Recognising the difficulties that would beset any one country—more particularly one of the smaller countries—in assuming the expense of the 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 in this connection attention has been turned to the airship as the only means of transportation that can be used in the kind of research work now contemplated.

"The Aero-Arctic is not formed with the idea of merely making a dash for the pole. Its purpose is to continue its work year in and year out and to establish permanent meteorological stations around the pole in different regions, from which commissions of experts can study special problems. The results will be given to the world and not be withheld in a selfish or niggardly spirit.

"It is only fair to ask: What can be accomplished by these dangerous and expensive expeditions? Are they

worth the cost? Let us first consider the word 'dangerous.'
"It cannot be denied that to the layman General Noble's adventure will for 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 Italia 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 245 meters and a width of 32 meters, is six and a half times as large as Noble'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, sail-makers 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 state-rooms, which are furnished with about the same degree of comfort as the berths on a railroad train.

"The greatest foe of airships in the Arctic regions has hitherto been the ice 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 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 one.

"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 accident of undue risk can be refuted in advance. It may be remembered that the failure of General Noble's trip was anticipated and predicted by German aero-technicians, and I think there is no reason to believe that his error 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 weather man and his forecasts 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 now possess the meteorological instruments which we shall no doubt have in the future.

"In prognosticating the weather it is necessary to know conditions which the atmosphere is in at the moment, and the airship is stationary, a telephone membrane which is connected with a microphone in the airship can be lowered to the surface of the water by means of an electric wire.

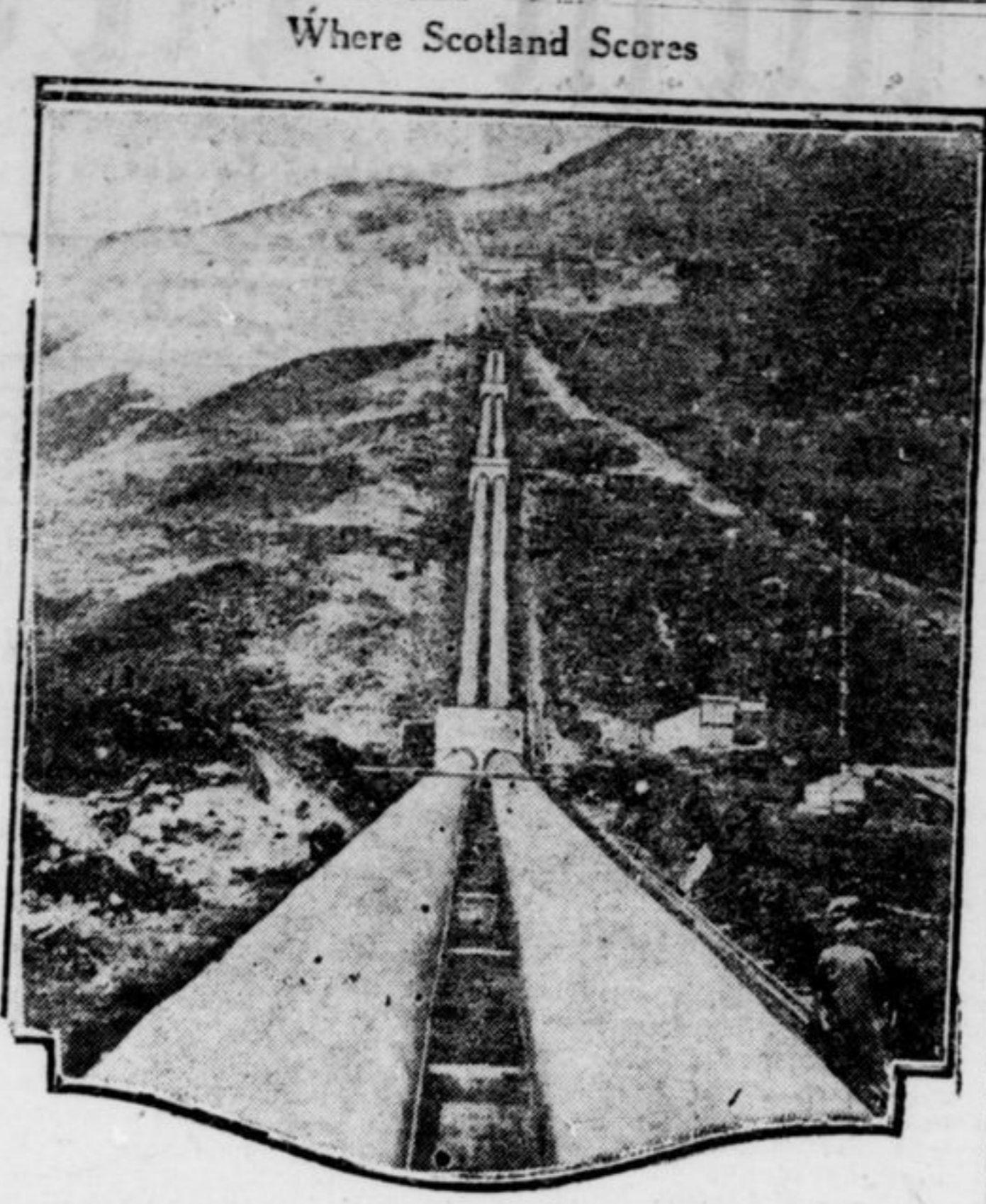
"When fixed bases have been established round about the pole and when we have an observatory on the ice above the pole itself provided with short-wave stations which maintain a constant connection with the outside world, we shall, of course, be able to make our predictions with far greater accuracy.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

The Seven Years Old Codfish
"Another important problem which knowledge of the polar regions will help us to solve is that of the fish-eries. 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

"When we think of how large a proportion of humanity depends more or less on the fisheries for its food, we can readily see how important it is to be able to calculate where the fish can be found in a given year and to avoid the economic loss of vain waiting for fish that does not appear. And this is not impossible; when our knowledge becomes wider and more accurate, we shall be able to follow the fish on its travels. We shall be able to tell when and where the fish had especially good hatching conditions in a certain year, and by tracing its further passage we shall know where to look for it.

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IS REGARDED AS GREATEST ENGINEERING FEAT
Tunnel through Ben Nevis, Scotland, 15 miles long and 15 feet in diameter, through which water will be carried to a power station at Fort William to create power for the British Aluminum Company.

influences 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 thrive. But the entire polar basin is covered with ice so thick that no light can penetrate, and consequently the organic matter which is carried 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 formed small drifting organisms called plankton, which feed on the diatoms. Next appear crustacean animals which are pursued by the crustaceous animals. Consequently we find enormous cod 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.

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British Still Carry on in Germany



WHITE CHRISTMAS FOR THE WATCH ON THE RHINE
A picture from Bingen, Germany, showing a detachment of British soldiers marching along the river in a snowstorm on Christmas Day.

world, and as the struggle for existence grows ever fiercer, we shall need all the knowledge we can obtain.

Why Nansen is Leader
"It is Fridtjof Nansen who has assumed leadership of the new polar exploration. In his youth he was the creator of the technique then used in polar travelling. The goals of that time are not those of the present. We no longer seek to establish a record or make a dash to the pole. Nansen has understood the requirements of the new age. His mighty intellect spans over the various natural sciences as no other man's. What he undertakes we know can be done and he is expecting results that will slowly raise the structure of human knowledge and make it of value.

"The new exploration will require no less courage and perseverance than the old, but the hazardous adventure is a thing 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 in vain; they made the beginning without which no great work is possible.

Sunday Work and Sunday Play

Le Monde Ouvrier (Ind.): Those who are opposed to Sunday amusements are the same who are opposed to the reduction of working hours in the day. "If the workman had more spare time during the week, after his work was over, there might perhaps be some point in suppressing his Sunday amusements. But it is not necessary to stop the whole plant because a wheel won't turn, or there is not working. You don't put sand on a bearing when a wheel won't turn, but oil. It is not by trying to kill Sunday amusements, under pretext of keeping hundreds of workers from work, that we shall meet with any success. Why ask us to believe that what was considered good twenty years ago, and even quite recently, is to-day injurious to the health of the community, just because a catastrophe occurred last year and a hundred children lost their lives?

Smythe—My wife's aunt is staying with us this week. Society Editor—She's your house guest? Smythe—Sure! Did you think we were keeping her in the garage?

Canada's Progress Shows Record Year With Future Bright

From Ocean to Ocean the Country Shared in Unprecedented Business in 1928

OUTLOOK GOOD

A study of Canada's past year and the progress our country has made cannot but be gratifying to every patriotic citizen. Whether our lot is cast in city, town, village or farm we must directly and indirectly benefit by our country's steady advance along the highway of nationhood.

This is to be a story of Canadian prosperity, with such statistics as are necessary to illustrate the dramatic ascent to a first place in business among the nations of a country which has fewer than ten million people inhabiting but a fringe of a geographical area greater than the square mileage of the United States and Alaska combined. With remarkable unanimity bankers, financiers and other authorities agree that 1928, which saw unprecedented expansion in almost every line of Canadian trade, business and industry, was but the beginning of an era of sound development to which it is not possible at this time to set a limit.

The new year opens with an undoubted spirit of optimism prevalent in the Maritime Provinces, not long ago steeped in depression and faced by grave economic problems. Production and distribution in the industrial areas of Ontario and Quebec are going from record to record. The Prairie Provinces are reaping the financial benefit of a crop beyond all precedent, and in the far West British Columbia is safely entered upon a period of unparalleled prosperity and of growing influence in national affairs.

In eight months of the current fiscal year, to Nov. 30, the foreign trade of the Dominion had a value of \$1,782,528,000, which was an increase of \$222,976,000 over the corresponding period of 1927. This trade was largely with Great Britain and the United States, although it is interesting to note that business was done with sixty-four countries.

Mineral Output Increased
Mineral output for the past year is estimated at not less than \$260,000,000, greater than ever before. An event of first importance was the arrangement which gave Canadian nickel control over the world's advance in nickel stock issues last year was worth \$100,000,000 to shareholders in this country. More coal has been mined than for several years, although the movement to extend Ontario has not met with conspicuous success. Pennsylvania anthracite still is the favorite household fuel in Ontario and Quebec, with some progress being made in the distribution of Welsh coal as its price is brought closer to the American standard.

During the year Nova Scotia coal shipped to Montreal by water amounted to 1,750,000 tons. Figures compiled to Dec. 15 show that 3,599,896 freight cars were loaded, compared with 3,283,647 in 1927. At Montreal on the Atlantic and Vancouver on the Pacific more ocean-going vessels reported in and out than ever before and freight and passenger traffic were proportionately greater.

In eleven months to the end of November Canadian newsprint mills produced 272,985 tons more than in the corresponding period of 1927, this being an increase of 14 per cent. To some extent the industry has suffered from over development, but steps have been taken to achieve stability in lines of Canadian business.

In the year the nine provinces spent \$30,000,000 on good roads and 400,000 automobiles were built and sold



SMOKES CIGARS AT TWO
Eugene Carbello, 24 years old, Everett, Mass., has been a cigar smoker since he was a year old, and he seems to thrive on the habit.

than ever before in a single year. The output for ten months was 231,188 cars and trucks, and there is little doubt that complete figures will show the Dominion has passed England and France to attain second place only to the United States ratio of one to five persons.

New Building Record
New records were set in the field of construction, with buildings undertaken to the estimated value of \$472,000,000, an increase of 2 per cent over the pre-war record years of 1912 and beating 1927 by 12.6 per cent. It is predicted with confidence that the half-billion mark will be reached in the present twelve months. Ontario and Manitoba reported slight decreases from 1927, but in the other provinces increases went from 25 per cent in British Columbia to more than 400 per cent in Nova Scotia.

Trading in listed stocks on the Toronto Exchange increased 50 per cent, and established a new high at 10,000,000 shares for the year. On the Toronto Curb Market the turnover amounted to 4,829,501 shares, compared to 2,594,143 in 1927. Other Canadian exchanges without exception were able to report similar activity, and in none of the cases the new year opens is there any indication of a loss of public interest in securities.

During the year 550,000 horsepower of electrical energy developed from Canadian rivers was added to the 4,800,000 horsepower available at the beginning of the year, and the total now is twice that available at the end of 1927. To-day \$20,000,000 is invested in Canadian hydro-electric plants. Numerous projects are in the initial stages of development and others are in active prospect, which when completed will result in an addition to the total installation in the Dominion of more than 2,000,000 horsepower, requiring an investment of at least an additional \$200,000,000.

Other Evidences of Prosperity
The people of Canada carry life insurance to the amount of \$5,500,000,000, or about \$570 per capita, and an increase during the year of \$700,000,000. Customs and excise collections for 1928 amounted to \$340,750,625, an increase during the year of \$700,000,000. Customs and excise collections for 1928 amounted to \$340,750,625, an increase of \$21,472,145.

There are to-day forty-four air harbors in the Dominion, as compared to twenty-five a year ago, and 333 airplanes in operation, or more than three times the number recorded at the end of 1926. For ten months Canadian railroads showed an increase of \$47,529,675 in gross revenues and an increase of \$21,668,005 in net operating revenues. For the first time the Canadian National System has been able out of profits to meet the obligations of securities held by the public and to make some return to the nation's Treasury. Those Canadians whose habit it has been to view with alarm the rail transportation problem economic stability and progress.

Having before it all of these and many other proofs of expansion in 1928, and feeling secure in the prospect for 1929, Parliament will assemble on Feb. 7 with skies fair and the green light shining. On Parliament Hill they expect to find the approach of a general election, though still distant, reflected in a more vigorous opposition and keener debate on public issues. But, in the main, the session is likely to be marked by business rather than by politics, since business to-day is the primary concern of most Canadians and the stock market ranks with the golf course as a subject of popular interest.

The Machine Age

Le Canada (Lib.): There can be no denying the fact that, despite the industrial prosperity of the United States, unemployment has been rife there for some time. The Democrats who, before the elections, wished to make a weapon of this against the Republican Party, exaggerated the figures which they published in order to make things look very black. But the Minister of Labor himself has recognized the existence of something like a million unemployed. It is not so very much out of a total of 23 million workers, but it is too much for these million men have been deprived of work through the employment of machines.

The theatre is an art and cannot be mixed with business.—Michael Strang.

Sea Raider Turns Auto Executive

Commander of U-Boat in War Now Manages an American Company in Germany

WORST 24 HOURS

Edgar, Baron Spiegel von zu Peckelsheim, was a deep sea raider who has become an automobile executive. Commander of numerous German U-boats during the World War, he is at present general manager for the Graham-Paige Company in Germany, and attended the Automobile Show in New York in that capacity. In his room at the Hotel Hollman he told of the thrills and narrow escapes of submarine warfare.

A day in April, 1915, crossing the English Channel in command of the U-32, he said, was his most terrific twenty-four hours of the entire war. The ship came to the surface that morning a way out from Ostend. The sea was crowded with mines, "lucky they were on the surface because it was low tide," he said, and the general impression was of "the inside of a caviar sandwich." Steering through them a twist of the helm one yard in the wrong direction would have meant disaster. And when the ship was about half way through, he noticed a destroyer patrolling on the other side.

Scrapes Mine Cable.
"We submerged," said the Baron, "and inside of half an hour I heard the iron cables that hold the mines scratching the side of the hull at least 100 times. If any part of our ship had hooked on one we'd have been finished."

On emerging the crew no longer saw the destroyer for a time and set out, in driving mist and snow, to get their bearings on a channel buoy. Suddenly their pursuer reappeared. They went into a half dive and as they did so found they were on the wrong side of the marker. Then they ran aground and the waves broke over them "in foam like Niagara." The reason they were not destroyed by shell fire, said the Baron, probably was because nobody aboard the destroyer thought of looking for a ship there on the sand bank. It turned away and left them, and by lighting the ballast tanks and putting on full speed the submarine got back into deep water.

Near the English coast they saw another destroyer, dove to thirty yards, and at eighteen yards depth heard an explosion above them, though it was before the days of the depth bomb. They were in a mine and only the deep dive had saved them. But the ship wouldn't steer and they found they were entangled in the iron meshes. A burst of speed got them free and they went for half an hour on a submerged course, across and the destroyer was still with them. They zigzagged for another half hour, rose again and the destroyer was right behind.

Cork Line Marked Their Course.
This kept on for five hours and the electricity was running out. When night fell the Baron submerged and rested on the bottom at forty meters. But a storm came up and the battering caused the submarine to look. At 4 a.m. they came up and steamed on the surface until daylight. Then the officers and crew discovered why the destroyer had been able to follow so well. In escaping from the mine net they had brought with them the cork line that held it floating in the water, and it had been trailing behind them for 400 yards, buoyant on the surface.

He said it has been his policy and that of the other U-boat commanders to "do all they could for the crews of the ships they sank," giving them their bearings and the way to the nearest land, and food and blankets whenever it was necessary.

Platinum in Canada

With the exception of a very few ounces of platinum obtained from the black sands of British Columbia, all the Canadian platinum and allied metals are obtained from the treatment of the Sudbury, Ontario, nickel-copper matte. The precious metal residues are allowed to accumulate over irregular periods before being treated, so that recoveries do not bear any definite relation to the quantity of matte treated in any particular year.



NOT NECESSARILY BETTER
1st Girl: You say you like him because he's a better man?
2nd Girl: No—a better man.

Some of my finest perforations have been achieved when I have been negotiating a recalcitrant ball in a peculiarly venomous bunker.—Winston Churchill.