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Author(s): Ernest Shackleton and Earl Curzon

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THE IMPERIAL TRANS-ANTARCTIC EXPEDITION, 1914.

By Sir ERNEST SHACKLETON, C.V.O.

Objects of the Expedition.

1. My object is to cross the South Polar Continent from sea to sea—from the Weddell sea to the Ross sea. The crossing of the South Polar Continent will be the biggest Polar journey ever yet attempted. It is a longer journey than to the Pole and back, and the first 800 miles will be on quite a new route, and with good fortune it is probable that the whole journey may be on entirely new ground. The minimum distance from sea to sea is about 1500 geographical miles—that is roughly 1700 statute miles.

2. From a geographical point of view, the complete continental nature of the Antarctic can be absolutely solved by such a journey. No one knows whether the great plateau dips gradually from the Pole towards the Weddell sea, and no one knows whether the great Victoria chain of mountains, which has been traced to the Pole, extends across the continent and links up with the Andes. The solving of this problem is of intense interest to geographers all over the world, and the discovery of the great mountain range, which we assume is there, will be one of the biggest geographical triumphs of the time.

3. The geological results will be of the greatest interest to the scientific world. The expedition will at its winter quarters make geological collections; also typical rocks will be taken on the journey if we come across exposed rocks when crossing the mountain ranges. One ship will land parties for the purpose of making geological collections on the west side of the Weddell sea, and the ship will at the same time trace, if possible, the continuation of Graham Land southwards.

4. The expedition will take continuous magnetic observations from the Weddell sea right across the Pole, and the route followed will lead towards the Magnetic Pole and make an ideal method of determining the general dip of the magnetic needle. This magnetic work has a direct bearing on economic conditions, in that an absolutely true knowledge of magnetic conditions is of use to ships in navigable waters. I also propose to set up a magnetic observatory at winter quarters and take continuous magnetic observations throughout the winter. On my last expedition we could only take field magnetic observations, as, owing to lack of money in the first place, I could not afford to provide a large magnetic equipment, though we did important work, as one of the parties reached for the first time the South Magnetic Pole.

5. The meteorological conditions would be carefully studied, and would help to elucidate some of the peculiar problems of weather that at present are only dimly recognized as existing. Continuous meteorological observations, both at winter quarters and on the journey across, are of

extreme importance, and the results can be correlated with the observations of the last three expeditions in the Antarctic.

6. Biological work will be thoroughly carried on, and the distribution of fauna and plant life will be studied. Both ships will be equipped for dredging and sounding.

7. All branches of science will be most carefully attended to, and the nett result scientifically ought to be a large increase to human knowledge; but, first and foremost, the crossing of the Polar Continent will be the main object of the expedition. The unknown fields to conquer are rapidly narrowing down in the world, but there still remains this great work.

Method of Conducting the Expedition.

8. I do not propose in this statement to go fully into the method of carrying out the expedition. It must be allowed that my experience and knowledge of Antarctic affairs are sufficient to warrant the matter being seriously thought of.

9. The main feature of the expedition will be that a party of six men will undertake the trans-Antarctic journey, with one hundred and twenty dogs, two sledges driven by aeroplane propellers with aeroplane engines, and an aeroplane with clipped wings to taxi over the ice.

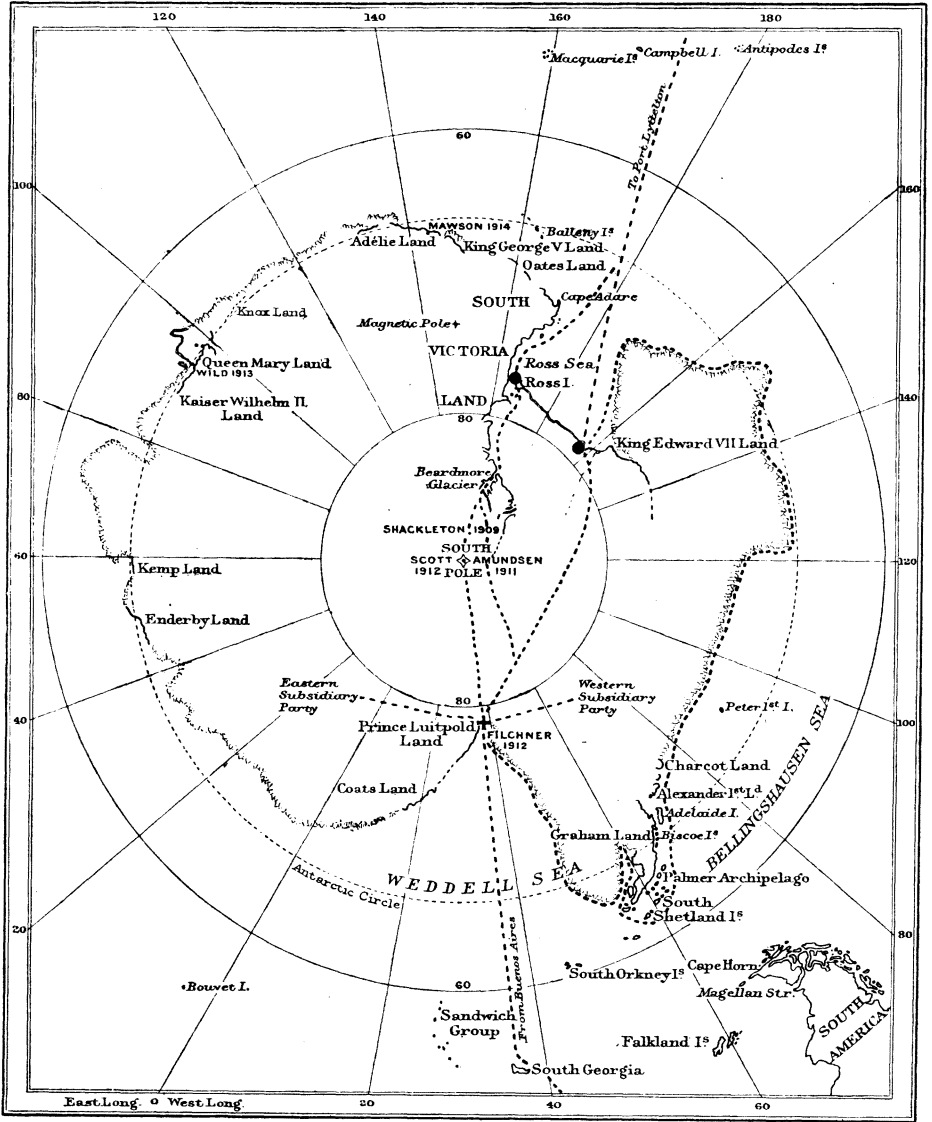
10. The second in command of the expedition will be Frank Wild, a first-class surveyor, who was with Scott in 1901–1904, was on the Southern Journey with me 1907–1909, made the big journey on the Australasian expedition, 1910–1912, and who is one of the very best modern Polar explorers.

11. In addition to the six men who will comprise the trans-Antarctic party, I shall have a trained biologist, geologist, and physicist attached to each ship of the expedition. It is possible that in the case of the first ship that goes down to the Weddell sea, these three men will be stationed at winter quarters in the Weddell sea, and in addition there may be another party of three to explore the land to the east of our winter quarters, which is entirely unknown. This largely depends on funds; the more money I have for the expedition the more I can enlarge its scope so as to embrace in the one expedition as many units for sledging as possible. During the summer months the first ship will navigate from winter quarters round towards the Ross sea.

12. I propose to have 120 trained dogs, obtained from Alaska and Siberia, taking teams used to post work, as these are the best dog teams, and it was with dogs of this kind that Amundsen made his wonderful speedy journey in which he gained the South Pole. The arrangement of the teams, and amount of weight, etc., dragged by the dogs are details which have been worked out, but which it is not necessary to allude to here.

13. In the last three years the aeroplane engine has reached what we may call absolute efficiency. Motor sledges in the ordinary accepted

SOUTH POLAR REGIONS
Showing the proposed routes
of the
TRANS-ANTARCTIC EXPEDITION
1914



term are practically useless in the Antarctic, as the amount of work put on the engine when passing over varying surfaces generally causes the motor to break down. I propose, therefore, to have an ordinary sledge, only larger than the usual size, with an aeroplane engine mounted on it, and an aeroplane propeller. I have had the pulling power of such a machine worked out, and find that a sledge of this description is capable of dragging 2000 lbs. weight at the rate of 5 to 6 miles an hour. I would propose to have two sledges built and thoroughly tested during the winter out in Siberia or the north of Canada under similar conditions to the Antarctic. These two sledges would be in the charge of experienced motor drivers.

Programme of the Expedition.

14. The expedition will leave Buenos Aires early in October, 1914, and push to the Antarctic, reaching, if possible, 78° S. lat., where a good landing-place was discovered by the German expedition. If the ice conditions are favourable, and it is possible to reach 78° S. and make a good landing by the beginning of November, the shore party will land and proceed immediately across. Once the pole is attained from the Weddell sea, the rest of the journey from the Pole to the winter quarters on the Ross sea will not be difficult. Should we not be able to arrive at the land in the Weddell sea early enough, we should make permanent winter quarters and lay out depôts before the winter, crossing the continent the following season. The first ship in this case will continue working in the Weddell sea and on the Graham Land coast, and when the season is too advanced for more work to be done, she will return to South America and continue in the following season, when she will pick up the Weddell sea party. The second ship will leave New Zealand, land a party in the Ross sea to meet the trans-continental party, and the trans-continental party will return in the second ship to New Zealand.

15. Although the journey seems a very long one, I feel that it is possible to accomplish the transcontinental journey in five months under favourable conditions, but in order to be prepared for all eventualities, I shall have the base in the Weddell sea to fall back upon should the obstacles be insurmountable the first season.

16. This, briefly, is an outline of the programme of the expedition. There will be two ships. The full complement of the shore party will be twelve men; the complement of the two ships will be thirty men—total forty-two. Both ships will be fitted to burn oil instead of coal; by the use of oil we shall greatly extend our radius of action and be independent of ballast, for when the oil is used up water can be pumped into the tanks and the ships can sail, thus obviating the previous difficulties of expedition ships, and we shall be able to stay at sea much longer. Both ships will also be fully equipped with cages and tanks for bringing home live penguins and seals, which have never yet been taken from Antarctic regions,

and I am convinced that it only requires a certain amount of care to bring home live specimens, especially the young.

17. I hope to give in another issue of the *Journal* more complete details of our expedition, but this is an outline which is subject to modification or extension—modification of the actual line of route, or change of the actual line of route; extension if sufficient funds allow me to increase the number of men or increase the number of sledge parties.

Since I formulated the above plans I have had an opportunity of consulting with the President of the Royal Geographical Society and other well-known geographers, and the consensus of opinion on their side—an opinion which I may say I am prepared to adopt—is that more benefit would ensue by not taking one of my tentative routes, *i.e.* that from the Pole behind the Victoria chain of mountains coming out at the position of Mount Melbourne, but rather that I should, if possible, take another route over to the eastward of Amundsen's track, or between our route, Beardmore glacier route, and Amundsen's glacier route; thus the entire ground would be new. Of these two new routes, undoubtedly the eastward one—if it can be done—is the most interesting, but a great deal would depend on the state of my equipment and the condition of the men by the time we reach the diverging point. This matter must finally be settled before I leave, or at any rate the arrangement for the depôt on the Ross sea side must be defined as regards latitude and longitude, so that, supposing I took any one of the three alternative routes, ignoring entirely the inland Victoria route, I should be able to pick up this proposed depôt.

There is hardly time now to go into this question, but I may say that the advice of the eminent geographers as regards this matter, weighs so considerably with me that I have determined not to pursue the original route inside the Victoria chain of mountains.

LETTER FROM LORD CURZON.

The Right Hon. Earl Curzon of Kedleston, G.C.S.I., G.C.I.E., President of the Society, has addressed the following letter to Sir Ernest Shackleton:

"I have read the letter and memo. that you have sent me with the warmest interest, and have no hesitation in expressing my hearty approval of the plans that you have sketched.

"When in my address in May I spoke of crossing the South Polar area from the Weddell sea to Ross sea, I hardly contemplated that any explorer would so soon essay the task. But that it is a work worthy to be taken in hand cannot be doubted; that it ought to be undertaken by an Englishman is to me quite clear; and that of living Englishmen you are the best fitted by training, knowledge, experience, and prestige to carry it to a successful issue, none will be found to deny.

"So far, therefore, as my personal sympathy is concerned, you may rest assured of that; and I apprehend that at a later date when you place your

views before the Council of the R.G.S. they are in the highest degree unlikely to take a different view.

“Quite apart from the contributions to geology, meteorology, and biology that may result from such an expedition—organized and equipped as it would be by you—the feat of crossing the Polar zone from sea to sea, and of discovering what lies hidden in that great white blank, whether of mountains, or glaciers, or frozen plateaux, or icy plains, appeals to the imagination as one of the few great achievements in exploration that are still open to the human race—a greater achievement, indeed, than any yet recorded in the history of the Antarctic or the Arctic.

“With these few words, permit me to offer you my heartiest wishes for your success, and to express a hope that you may receive that financial support without which so considerable a venture cannot be fairly or profitably undertaken.”

GRANT FROM THE SOCIETY.

At the meeting of the Council of the Royal Geographical Society, on January 12, it was resolved to make a grant of £1000 towards Sir Ernest Shackleton's Trans-Antarctic Expedition.

CARTE INTERNATIONALE DU MONDE AU MILLIONÈME.

IN the four years which have passed since the first International Map Conference assembled in London, about a dozen sheets have been produced, and the experience gained in their production has shown the desirability of making certain changes in the conventional signs sheet and in the scale of layer colours. Moreover, the Conference of London included representatives of only those Powers which are represented by Ambassadors at the Court of Saint James; and there were reasons why it was desirable that other powers interested should have an opportunity of contributing to the establishment of a final scheme.

The French Government accordingly issued invitations to all the other governments for a second International Conference in Paris; and in response to this invitation the representatives of thirty-three countries assembled in the *Salle d'honneur* of the *Invalides* on December 10. The conference had a strictly official character, in that the delegates were formally accredited by their respective Governments, and the agreements reached will be submitted for ratification through diplomatic channels.

Of the twenty-one names at the foot of the London resolutions of 1909, nine are found in the list of delegates to Paris—Penck, Partsch, von Haardt von Hartenthurn, Brückner, Loczy, Cubillo, Close, Vidal de la Blache, and Lallemand. The full list of delegates to Paris contains fifty-seven names, including General von Bertrab (Germany), Colonel Jeanne