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GEOGRAPHY OF ANTARCTICA.

WILKINS'S HAZARDOUS FLIGHT REVIEWED.

MAJOR PROBLEM NOT YET SOLVED.

Reviewing Sir George Wilkins's great flight in the Antarctic, Sir Douglas Mawson points out that the problem which has long presented itself to geographers, whether East Antarctica is separated by a water channel from West Antarctica has not yet been solved.

In an interview with a representative of The Register on Wednesday, Sir Douglas Mawson, Professor of Geology at the Adelaide University, said it would appear from the reports cabled that Sir George Wilkins had travelled south on a flight of 11 hours from Deception Island, one of the South Shetland islands, in 63 deg. south latitude, and had reached as far as about lat. 71.30 deg. S. That point of latitude and distance would correspond to a flight from, say, Trondhjem to North Cape, in Norway. Although the flight appeared to be so happily successful, continued Sir Douglas, it should be known that had anything gone wrong with the plane and a forced descent become necessary, the consequences would by no means have been pleasant to contemplate. The flight was extremely hazardous.

Geographers' Knowledge Increased.

Sir Douglas added that the flight of Wilkins and Eielson over the Graham Land extension of the Antarctic regions was of very great interest to geographers, and had immensely added to their knowledge of the area.

air in joining up the work of these two men, and proving that a channel does exist in that locality, between the Weddell Sea and the Pacific Ocean. So far as can be judged from the reports to hand, it would appear that Sir George Wilkins reached to about 71½ deg. S. latitude. His statement indicates that in that location the real continental ice has been met, and that it is of the nature of a sweeping, smooth surface rising from the Barrier ice at the coastline to elevated plateaux in the interior. This would correspond with the type of coast reported on the east side of the Weddell Sea by the Bruce, Shackleton, and Filchner expeditions. Wilkins has reported that at a point about 50 miles south of Weather Island, which is on the Antarctic Circle, there exists a large island. This land was seen by Capt. Larsen, who was not, however, able to determine whether it was an island or part of the mainland of Graham Land.

Solving the Problem.

"In some of the early newspaper reports that came through regarding the flight, it was stated that the greatest geographical problem of the Antarctic region had been solved, namely, that instead of being one continent, it was now found to be divided into two separate areas. That statement is not really correct. The problem to which reference was there made undoubtedly has to do with the oft-discussed relationship of East Antarctica to West Antarctica. That problem was first brought under notice by the noted Swedish explorer, Dr. Otto Nordenskjöld. He thought it probable that the Graham Land extension of Antarctica continued southward and westward, eventually to join with King Edward VII. Land, on the east side of the Ross Sea. This land area he referred to as West Antarctica. The high plateau region on the western side of the Ross Sea, extending beyond the Pole itself, and stretching far over to the Indian and Antarctic Oceans, he refers to as East Antarctica. Geographically, these two areas are very different regions. He has discussed the possibility of the two regions being quite separate, with a potential water channel between them extending from the Ross Sea to the Weddell Sea. In any case," said Sir Douglas, "this sea channel would be decked with ice, thus joining East and West Antarctica."

What the Flight has Shown.

"It is hoped," Sir Douglas proceeded, "that the labours of the Wilkins and Byrd expeditions at present in the field will go far toward clearing up the uncertainty of the relationship of East Antarctica with West Antarctica. That is the greatest problem. So far Sir George Wilkins's flight has shown that the Graham Land extension is itself cut off by water channels from the more southerly extension of Western Antarctica. Though the mountain chain of which Graham Land is composed, descends beneath the sea in its southern extension, and is crossed by a water channel, yet there is good reason to expect that it does continue to extend farther south and west, eventually possibly joining up with King Edward VII. Land. Sir George Wilkins's flight covers about a third of this distance, so that there is still much to be done before the major problem is disposed of."

A Correction.

Sir Douglas Mawson pointed out that after he had spoken over the telephone on December 21, in an endeavour to explain the major problem as distinct from the relationship of Graham Land itself, an error had crept into the report appearing in The Register on December 22, which credited him with having said that the separation of Graham Land from the Polar continent was not proved; whereas he had intended to convey that it was not yet proved that the mass of West Antarctica was separated from East Antarctica by a frozen water channel.



The map shows the area covered by the Australasian Antarctic Expedition of 1911-14.



SIR DOUGLAS MAWSON.

"The outstanding feature," he continued, "is that the high mountainous backbone of Graham Land, which for many reasons has been regarded as a continuation of the Andean chain of South America, apparently dies out to the south, disappearing under an extensive ice sheet which must be continuous with the continent we know to exist further south and east."

Earlier Researches.

"The reports of Sir George Wilkins indicate that the channel explored in 1909 by Dr. Jean Charcot, the famous French explorer, extending between the lands discovered by him, namely, Charcot Land and Falliere Land, continues through to the Weddell Sea, though capped by a floating sheet of fresh water ice like that of the well-known Ross Sea barrier in the Australian Antarctic region. Charcot, in his small vessel, the Pourquoi Pas (Why Not), was repulsed by the pack ice from this indentation on the west-coastline of Graham Land." Capt. Larsen, of Norwegian whaling fame, in 1893 pushed down the east coast of Graham Land to a point very nearly opposite Charcot's discoveries, but found the pack ice so heavy that he also had to turn back.

Value of Air Work.

"Now," Sir Douglas said, "Wilkins has shown the value of exploration by the

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THE MAN ON THE LAND.

PASTURE REGENERATION.

Research at Koonamore.

An Extended Programme.

"When in January, 1928, the writer was appointed to the Chair of Botany in the University of Sydney, the Council of the University of Adelaide asked him to continue the oversight of the work for a time in order that there might be no break in the sequence of observations. At this stage the Council for Scientific and Industrial Research undertook to subsidize the investigation. This assistance has made it possible to station a resident field officer at the reserve, and Mr. T. B. Paltridge, B.Sc., has been appointed to the position. The field laboratory has been added to and improved to make it suitable for occupation as a permanent residence. An extended programme of work is now in progress, the writer's cooperation affecting not only the reserve itself, but also including, with the co-operation of local landowners, the study of the fodder plants growing in the district under conditions of pastoral exploitation. That these are problems which merit study is recognised by all who are familiar with the pastoral industry in arid Australia."

Professor T. G. B. Osborn, of the University of Sydney, and formerly of Adelaide University, has written an interesting article on the Koonamore Vegetation Reserve in the current issue of The Journal of the Council of Scientific and Industrial Research. "Some years ago," he points out, "the writer began to study the plant life in Australia. The object was primarily to examine the plant communities growing there and the relationship between them and the higher communities were degenerating. It was early realized that many of the no young trees or shrubs were appearing to replace those destroyed or dying. It was obvious that the plant communities were being changed, and that the change was due to the influence of grazing animals. It appeared to be of some interest, and probably of economic importance, to study precisely what these changes were and how they were effected. To do so required an experimental area over which no grazing could be allowed, and from which rabbits could be excluded. Hamilton & Wilcox, Limited, generously gave to the University of Adelaide an area of about 1,300 acres upon Koonamore Station (north-eastern district of South Australia), and enclosed it in a vermin-proof fence.

"This area is now known as the Koonamore Vegetation Reserve for the study of saltbush flora. It was deliberately selected as showing a diversity of country from which the greater part of the original salt and blue bushes had been destroyed by stock. The donors built adjacent to the reserve a three-roomed galvanized iron house for use as a field laboratory, and in May, 1926, from this base a series of experimental observation was begun by the Department of Botany in the University of Adelaide. The experiments were primarily designed to study the regeneration of the saltbushes and associated plants over the enclosed area. It was originally planned to make quarterly visits over a series of years, keeping careful records in the form of maps and photographs of selected plots within the reserve. Other observations on the conditions of growth and reproduction of the plants were begun."

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NEW YEAR HONOURS.

The cabled announcement that, owing to the illness of His Majesty the King, the issue of the customary New Year honours list will be postponed, is confirmed in a notification from the Governor-General.