

THE DISCOVERY OF CHARCOT LAND (ANTARCTICA)

by J. ROUCH

After having spent the winter of 1909 at Port Circoncision, Petermann Island (West Coast of Graham Land) the *Pourquoi-Pas ?*, commanded by J. B. CHARCOT, took on coal at Deception Island (South Shetlands). Later she undertook a second summer campaign in the southern Pacific Ocean. She left Deception Island on 6 January 1910, steamed along the west coast of Graham Land, and by 10 January had reach Latitude 69° South off Alexander Land, encountering a North-East wind and foggy weather.

I quote a passage from CHARCOT's narrative, taken from his book : *Le " Pourquoi-Pas ? " dans l'Antarctique* (Paris, 1910), from page 340 onwards.

" 11 January. I did not want to leave this region without having profited from a break in the weather to see around us, and we therefore hove to under shortened sail. In fact, after this North-East wind, I was expecting at least several hours of fine weather, and I had announced this to my shipmates who however remained sceptical. We stayed thus, gently rocking amid the pack-ice, under snow which never ceased falling, covering the ship with a handsome white coat, but making the deck impossibly slippery. Very close to us, in the noble silence of the night, I heard the ice cracking together as it was stirred by the swell, making a sound like the distant murmur of a large town at the end of a valley. It was the voice of the Antarctic which has its own charms.

" During the morning some short fine spells which I was awaiting with impatience actually came about. From the top of the crow's nest it seemed to me that I could see something very strange in the South-East. Was it an iceberg, or was it something else which I did not dare to express ? I spoke to no-one, so frightened was I of being mistaken, and then the horizon clouded afresh. Taking advantage of the calm, and to stave off my impatience which increased to the point of anguish, I had the dinghy manned, and in several journeys it had brought in about a ton of iceberg fragments which we put into the boiler to make water. Finally at mid-day the day brightened entirely, and I anxiously examined the horizon. Afar in the pack-ice appeared Alexander I Land at a new angle which allowed BONGRAIN (then a Sub-Lieutenant in charge of hydrographic surveys on board the *Pourquoi-Pas ?*) to finish his chart. The chart had been started during the previous summer campaign in January 1909 (*). Nearer now, I again came upon the same sight as I had seen in the morning, and my mind was made up. However I did not want to talk of this to anyone before having made absolutely and indisputably certain.

(*) See : *The Discovery of Marguerite Bay (Int. Hydrog. Review, Vol. XXXIX, No. 2, July 1962).*

" I started the engines up and, contrary to earlier decisions, to the astonishment of all I steered towards the East. I heard several small criticisms which would otherwise have been well-founded but which now only caused me to smile. I ate quickly in order not to attract anyone's attention, and with my binoculars I again climbed to the crow's nest. There was no longer any doubt, those were not icebergs, their summits rising towards the sky, standing over there, but land itself ! A new land, a land which could be seen clearly with the naked eye, a land all our own ! It would have been necessary to live all those months of waiting, anxiety, fear of failure, eagerness to do well, of the will to take something significant back to our country, to understand exactly the meaning of these two words repeated under my breath — a *new land* ! I called BONGRAIN, who was on watch, to the top-gallant cross-trees, and I passed him my binoculars, telling him not to speak aloud of what he was about to see. All he could say was the one word " Oh ! " .

" We proceeded, and now I could admit my discovery, which brought nearly everyone out on deck. We picked out two large mountain ranges, from which dark rocks loomed out, and between them a smaller range, all looking very much similar to Adelaide Island or to Alexander I Land. These arose from an ice-cap which appeared to extend far to the East and to the West, clearly separated, however, from Alexander I Land which lies to the North of it. It appeared to me that several high peaks were visible against the horizon, passing behind Alexander I Land in the direction of Fallières Land, but not being absolutely certain I preferred not to indicate these on the Chart. The fine weather allowed us to take sights and to position our discovery at Longitude 77° West and Latitude 70° South. There was little likelihood of being able to reach these territories; however I could not resist the temptation to approach them closer, and so we set off into the pack-ice. This pack was formed of floes which we were not able to shift as they were so large and thick and were fused together by sludge ice. In spite of combining sail and steam we did not advance as much as 20 metres per hour. After four hours of this exasperating progress, during which the ship strained badly, we tried to regain the fringe, but it was only after an hour's work pushing the ice aside with poles that we were able to extract ourselves from our dangerous position.

" Finally we found more open sea, and we followed the edge of the ice-pack westwards while fog again blotted out our discovery.

" The new land appears on the chart of the expedition's discoveries by the name of Charcot Land, but it must be understood that it is after my father, Professor CHARCOT, who did so much for French science, and not after me that the place is named. "

For his part Maurice BONGRAIN has written thus in his report : *Description des Côtes et Banquises. Instructions Nautiques* (Paris, 1914).

" Charcot Land, which we were only able to see for a few hours and at a great distance, is only placed at an approximate latitude on our charts. From the crow's nest of the *Pourquoi-Pas ?* the coastal ice cliff with which its North Coast ends was conspicuous and level with the horizon. By assuming that this cliff is of the normal height of from 30 to 40 metres (like that of Adelaide Island) then Charcot Land would lie between 30 and 40 nautical miles away.

" Two clearly seen summits, whose bases were hidden by the ice-cap, were named Monique and Marion and these could be about 1 800-2 000 metres high. A third summit, further east, was named Martine.

" The western extremity of this land remained indistinct, but if we refer to the track chart of the *Pourquoi-Pas ?* it will be seen that it cannot extend much further to the west. "

Maurice BONGRAIN drew a view of the coast of Charcot Land which, as we shall see, played an important part in the exploration of this land.

I quote now an extract from my own work, published under the title : *L'Antarctide, Voyage du " Pourquoi-Pas ", 1908-1910* (Paris, 1926).

" 11 January 1910.

" All binoculars were trained southwards. Several times already the sailors had exclaimed the words " A new land ".

" Alas ! It had always proved to be an illusion : either broken up icebergs or deceptively shaped clouds.

" But this time it really did exist.

" We saw two summits distinctly with several black rocks along their slopes, and indeed we were looking at the distant yellowish and leaden light of land, quite dissimilar to the ever bluish and transparent icebergs.

" We were undecided for several hours. We had been mistaken so many times, but now it was absolutely certain that a new outcrop of the Antarctic continent had been discovered.

" CHARCOT coming down from the mast could not conceal his emotion, and he called out to the crew :

" You have the honour to have given a new land to your country ! "

" A new land ! To understand the proud joy that these two words aroused in our hearts one must have strained one's eyes scrutinising the horizon for days on end.

" The discovery of Fallières Land the previous year did not blunt our joy. It had been our dream to see unknown countries arise on the horizon, but the actual fact seemed miraculous.

" Today, once more, this miracle had happened.

" I tried to hide my joy behind an unconcerned smile, and I thought :

" After all, it is a stroke of luck that this land is precisely here ! "

" But I felt the vanity of these boasts, and I was filled, like the others, with the emotion of the discovery, and with the pride of seeing something never before seen by a living soul.

" Separated from Alexander Land, whose last cone we could see in the distance, this land continues the mountain range of Graham Land and Fallières Land towards the South-West, and no doubt goes on to join the territory on which the continental plateau discovered by the *Belgica* apparently rests.

" Thus several new coastlines are going to be drawn on the polar chart, and the Antarctic continent is less and less a geographical supposition.

" We thought we should try to approach this land.

" An impregnable ice-field prevented us. The ice floes were so close together that the *Pourquoi-Pas ?* failed to separate them.

" Under shortened sail, we allowed the wind to move us, but we did not gain even 100 metres in an hour.

“ Nevertheless the outlines became more definite, the valleys became clearer, and those of us with keen sight thought we were already able to distinguish the ice-piedmont in which the glaciers merge, as do those of Adelaide Land.

“ Oblivious of the hardships of the past long months several of us spoke of wintering here.

“ Without doubt that would have been madness. Besides it was essential to leave because we were not even able to make a mile in this ice-bank.

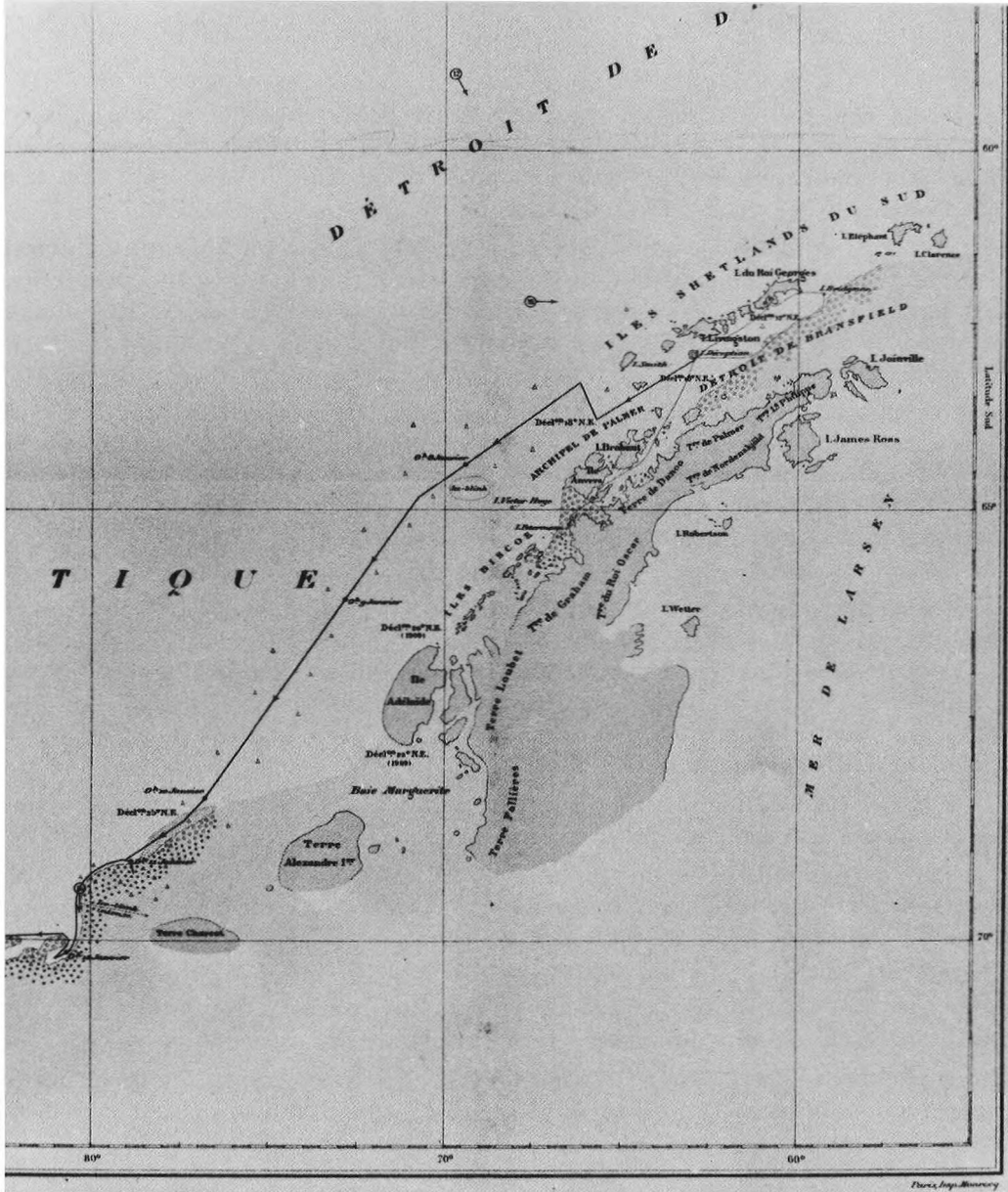


FIG. 2. — Track chart of the *Pourquoi-Pas?*

" For hours the *Pourquoi-Pas ?* jostled the drift-ice, turning it aside, trying out new channels, and finally made the open sea which as the crew flies had always been so close.

" The fine weather, which had helped our discovery, now finished. The fog reappeared blotting out icebergs, pack-ice and summits alike. The new land disappeared.

" Hereafter, who will see it again ? Who, like us, will have the chance to traverse these wildernesses, and the good fortune to describe in detail what we ourselves have seen ? ".

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If, as was the case until the 1914 War, polar expeditions could only be made by boat, it is likely that Charcot Land, protected for ever by an impassable ice-pack, would still be marked on the charts only by the vague outlines drawn by Maurice BONGRAIN.

But the rapid development of aviation and aerial photography during the 1914 War changed completely the conditions for cartographic problems, and thanks to these developments it has been possible to draw up charts of regions where man has never actually landed.

In a memoir published in *The Geographical Journal*, Vol. 129, Part 2, June 1963, under the title : *The Evolution of the Map of Alexander and Charcot Islands, Antarctica*, D. J. H. SEARLE has interpreted aerial documents from various sources, and has drawn up a detailed chart of that part of the Antarctic explored by the *Pourquoi-Pas ?*, and in particular Charcot Land, with which we are now concerned.

It was only in 1929, nearly twenty years after the voyage of the *Pourquoi-Pas ?*, that Charcot Land was seen again, but this time it was from the air, by the British aviator Hubert WILKINS. By circling the spot WILKINS showed that it was in fact an island, and not part of the Antarctic continent as we had imagined. Hand-taken photographs, mainly of the North and East coasts, allow us to estimate the area of the island as 2 500 square miles (6 500 square kilometres).

By way of comparison let us recall that Corsica is 3 400 square miles (8 700 square kilometres) in size.

The agreement between certain of WILKINS' photographs and BONGRAIN'S view of the coast is remarkable. WILKINS confirmed to within a few miles the latitude given by BONGRAIN to the North coast of the island.

All the subsequent expeditions working in this region have been American ones, although Charcot Land lies within the limits of the Falkland Dependencies annexed by Britain in 1928.

In February 1947, in the course of the U.S. Navy Operation Highjump, many reconnaissance flights took place along the North and East coasts of the island, and many photographs at altitudes varying from 500 to 1 500 feet (150 to 500 metres) were taken, but for drawing up the chart their interpretation proved difficult as they had been taken at ill-defined altitudes and at uncertain angles.

CARTE DE LA TERRE CHARCOT ET SES ENVIRONS

d'après la carte

ALEXANDER ISLAND AND CHARCOT ISLAND

établie par D.J.H. SEARLE (British Antarctic Survey) en 1959-1960, parue dans "The Geographical Journal", Vol. 129, Part 2, June 1963.

Sondes en brasses.

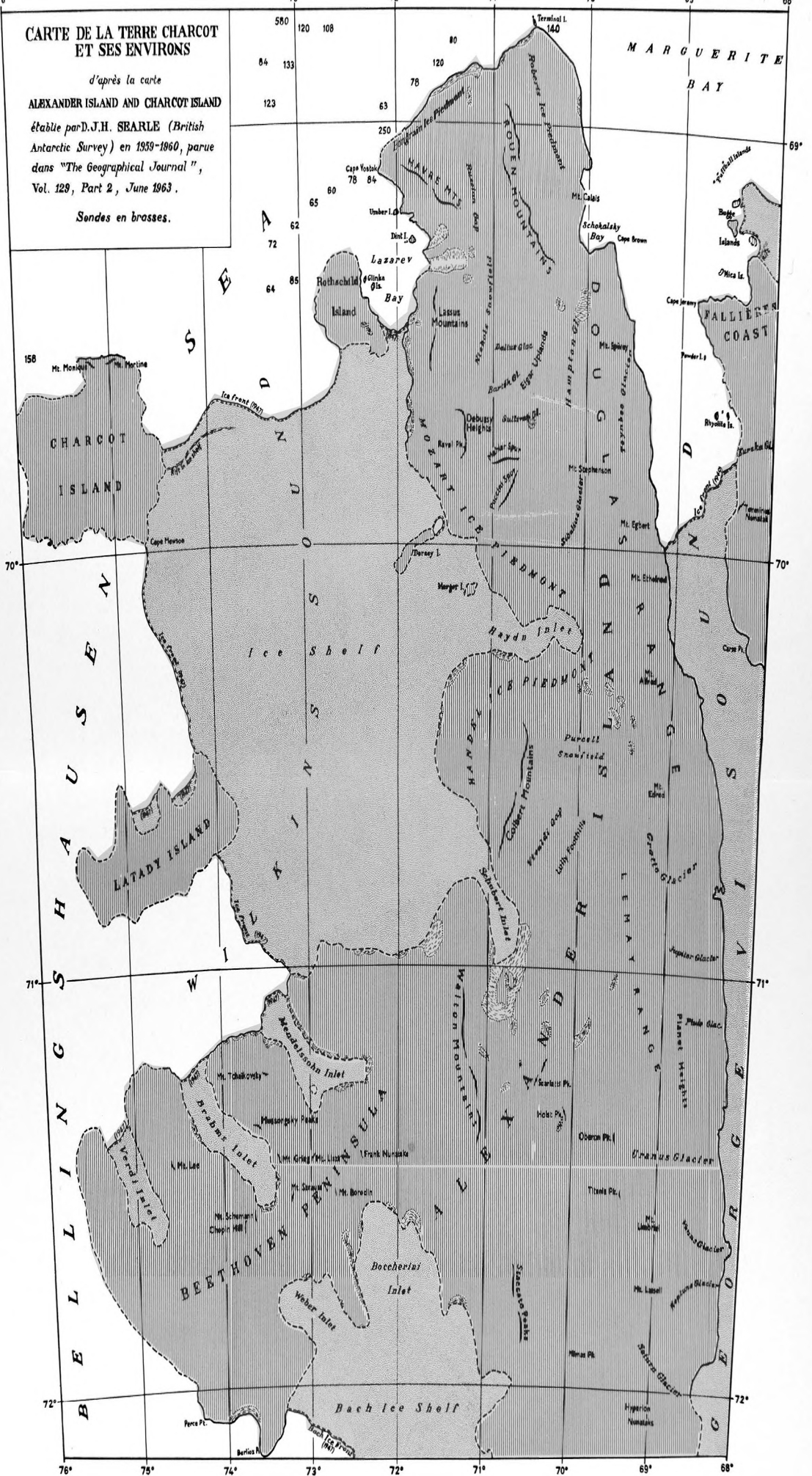


FIG. 3

The aerial photographs taken by the RONNE Expedition (*Ronne Antarctic Research Expedition 1947-1948*) were more effective, but unfortunately the cameras functioned only intermittently. In the course of one of these flights RONNE and his two companions landed on Charcot Island after technical trouble. They were the first human beings to remain there for several hours, and to this day they are the only ones.

SEARLE states that to draw up the chart of Charcot Island a total of only 200 to 300 aerial photographs was available.

From close examination of these photographs it would seem that there are in reality two islands. Charcot Island would not have an area of more than 700 square miles (2 000 square kilometres).

Two points about Charcot Island remain debatable.

First of all the height of the island above sea level. BONGRAIN estimates the height of the summits seen in the distance from the *Pourquoi-Pas ?* as from 6 000 to 6 500 feet (1 800 to 2 000 metres). Later WILKINS, flying at an altitude of 2 500 feet (750 metres), estimated that the summits of Charcot Island were 500 feet (150 metres) below him. Therefore they would not be more than 1 800 feet (600 metres) in height.

Without any doubt the height of territory flown over can be estimated with more accuracy from altimeter-equipped aircraft than from a ship stationed about thirty miles away in an ice-covered sea.

It is probable that the *Pourquoi-Pas ?* was closer to Charcot Island than was estimated by BONGRAIN who, as we have seen, based his estimation on the presumed height of the cliff of ice bordering the island. From this arose a significant error in the estimation of height.

The flights made by RONNE also confirmed that no peak on Charcot Island exceeds 3 000 feet (900 metres), for his flights were carried out whilst a layer of cloud at this altitude covered the entire island. No summit protruded through this cloud layer. The height of Charcot Island marked on BONGRAIN's chart should therefore be reduced by about 3 500 feet (1 000 metres).

The second controversial point is that it is usual to attribute three summits to Charcot Island — Marion, Monique and Martine, named after CHARCOT's three daughters — Martine summit being situated about twenty miles to the East of the first two.

In his 1910 book CHARCOT does not speak of this third summit. But in an article, published in 1930 in English, in *The Geographical Record* 20, 3, he puts it thus :

“ The three peaks have been recognized and are the only bare land protruding from the ice-cap. We make out two high mountained masses, and between them a smaller mass ... ”.

It is clear, says SEARLE, that the series of nunataks between the two mountains were considered by CHARCOT as a third summit, and all three presented black rocks conspicuous amid the ice. The summit Martine, marked on BONGRAIN's chart, does not appear on either WILKINS' aerial photographs, those of Operation Highjump, or even on RONNE's photographs.

According to SEARLE the summit to the East marked by BONGRAIN with

the name of Mount Martine was perhaps only a distant summit of Alexander Land. However, according to BONGRAIN's track chart, the summit Martine was discerned by the *Pourquoi-Pas ?* to the South-East, and in this direction the summits of Alexander Land (moreover unknown to us) were at a distance of more than 100 miles. As far as I can remember visibility, although good in the afternoon of the day of our discovery, was never so exceptional as to allow us to discern summits at such a distance.

On his chart SEARLE has kept in an ingenious way the names that CHARCOT had given to Charcot Land : the names of Monique and Martine to the two incontestable summits marked on BONGRAIN's view of the coast, and the name of Marion Nunataks to the line of much lower nunataks which appear to join the two summits.

It will only be possible to prepare an exact chart of these regions when a network of onshore observations has been made. But even considered simply as a sketch D. J. H. SEARLE's chart makes fascinating examination for the explorers of the *Pourquoi-Pas ?* for it was they who first saw the Northern shores of Charcot Land.

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