Dayaks in Sarawak. The author gives interesting notes on Dayaks and heads, and a gruesome story of a head-hunting exploit. Later he lived with Dayaks on the Sarekei River. The chapter in which he describes his life among them is one of the best in his book.

The final chapter is an account of a visit to the famous birds'-nest caves of Gomanton, in British North Borneo. Of these caves and their inhabitants —birds and bats—an interesting account is given. Incidentally also a good word-picture is given of Borneo river and jungle life.

Mr. Walker has told his story in a very natural and entertaining way. There are no dull pages. Some of his cannibal and head-hunting tales may be *horrendum dictu*, but even these are to be matched by facts culled from many an official report on these wild people of the South Seas.

The book is well illustrated by forty-eight illustrations from photographs, and has a useful index.

S. H. R.

THE FRENCH ANTARCTIC EXPEDITION.

THE French expedition under Dr. Jean Charcot, on board the *Pourquoi Pas?* returned to Punta Arenas at the end of last week. The early return of the expedition, some weeks before it was expected, is due to a series of misfortunes which limited the range of the expedition's operations.

It will be remembered that this is the second of Dr. Charcot's Antarctic voyages. In 1903–5, on board the *Français*, he carried out an expedition along the west coast of Graham Land, south of Cape Horn, wintering on Wandel Island, in about 65° S. lat., and continuing the voyage to a point off Alexander I. Land in about 68° S. lat. Apart from the additions made to cartographical knowledge of some of the islands off Graham Land, the expedition was notable for the scientific observations and collections secured in the departments of hydrography, terrestrial magnetism, biology, botany, and geology.

Dr. Charcot's latest expedition was designed to extend the work done in 1903–5. The programme contemplated another cruise among the islands off the west coast of Graham Land, whence it was hoped to continue the voyage westwards in the direction of King Edward VII. Land; it was also proposed to make excursions southwards to investigate the character of the supposed Antarctic continent, and for this purpose the *Pourquoi Pas?* carried a number of specially designed motor sledges. The expedition was liberally subsidised (24,000*l.*) by the French Government, and the ship, a barquentine with an auxiliary engine of 550 h.p., was specially built for the voyage. The French Naval Department, the Paris Museum, and the Prince of Monaco contributed to the scientific equipment, and the scientific staff included, besides Dr. Charcot, who belongs to the medical profession and is an experienced bacteriologist, specialists in hydrography, oceanography and meteorology, tidal and chemical observations, geology and glaciology, natural history, and terrestrial magnetism.

The expedition sailed from Havre in August, 1908, and from Punta Arenas in the following December. Supplies of coal were taken on board at Deception Island (lat. 63° S.), in the South Shetlands, which has become an important rendezvous for whalers. On resuming the voyage the *Pourquoi Pas?* ran aground, and after being re-floated lost her rudder in collision with icebergs. The voyage, however, was continued to Adelaide Island, south of the 67th parallel, and the adjacent coasts were explored for a distance of 120 miles to Alexander I. Land. Being unable to find a safe anchorage, the expedition then returned north and spent the Antarctic winter of last year off Petermann Island, south of the 65th parallel. Though attacked by scurvy and other diseases, the explorers carried out several excursions, and made a careful study of the glaciology of the region. On the return of summer they continued their explorations among the South Shetlands, again visiting Deception Island, and also Bridgman Island (62° S.). The course of the *Pourquoi Pas?* was then directed south and west, and the expedition succeeded in reaching Peter I. Island (lat. 69° S., long. 90° W.). Ultimately the voyage was extended, between the 69th and 71st parallels, to long. 126° W. King Edward VII. Land extends between the 150th and 160th meridians of west longitude.

Graham Land projects northwards from the Antarctic Circle towards Cape Horn as a great tongue of land with numerous adjacent islands. It has been visited by several expeditions, but its connection with the Antarctic continent is still a matter of speculation. Westwards, in the region south of the Pacific Ocean, Cook and Bellingshausen sighted stray patches of land or appearances of land, presumably part of the Antarctic continent, but the continuous coast has never been definitely traced. Geographically, the value of Dr. Charcot's expedition consists in the work he has been able to accomplish in linking up and defining more clearly the character of these stray patches of coast. Exactly what have been the results of the expedition in this connection can only be determined when his charts become available. As on the occasion of his former expedition, the most valuable feature of the results will probably be the scientific data collected respecting the magnetic, meteorological, hydrographical, and geological conditions in the regions south of Cape Horn. Dr Charcot was unable to make use of his motor sledges for penetrating the Antarctic continent.

RADIUM IN DISEASE.

ATTENTION has again been directed to the possibilities of radium as a curative agent by Sir William Ramsay (at the Authors' Club on Monday), and by Sir Lauder Brunton (in the *Lancet*).

The supply of radium available for the treatment of disease is still so limited that the therapeutic usefulness of this agent has not yet been fully determined. No sooner were indications noted of a prospect of relieving cancer by the use of radium than all the radium obtainable was devoted to this purpose; consequently, its action in less serious ailments is still almost unknown.

In the treatment of cancer, radium has usually been employed in the form of crystals of the bromide. These crystals are contained either in a sealed glass tube or in a button with a covering of thin glass, aluminium or mica. Recently the crystals have been spread in a thin layer upon a flat surface and covered with a layer of varnish. Such buttons and spread preparations are suitable for application to the surface of the body. The glass tubes may be inserted into the interior of tumours, or into orifices of the body; thus, they may be placed in the mouth or nose, in the œsophagus (within a rubber tube), in the rectum, or in the cervix uteri.

Of the three types of radiation given off by radium (the alpha, beta, and gamma radiations), the view commonly accepted is that the gamma rays have a selective action, destroying cancer cells while leaving the normal cells of the part intact, while the alpha and

soft beta rays destroy all cells indiscriminately. Means must accordingly be used to prevent the alpha and soft beta rays from reaching the body. A filter consisting of one millimetre thickness of lead is suitable.

As it is risky to send a patient away with a valuable tube of radium crystals within his body, sealed glass tubes of radium emanation have recently been used (*Lancet*, December 11, 1909). They are enclosed in lead tubing one millimetre in thickness. These tubes of emanation do not differ from the crystals in the rays they emit or in their action; there is, however, one important difference; the radio-active strength of the emanation tube decays according to an exponential law in such a way that the strength is reduced to one-half at the end of about four days. Such tubes, of about 10 milligramme strength, may be placed in contact with a cancerous growth (say in the rectum) and allowed to decay *in situ*. At the end of a fortnight they may be removed, as being then too weak to be of further use.

Other methods have been tried in a few cases; thus, dilute solutions of radium bromide have been given by mouth, and water in which radium emanation has been dissolved has been injected subcutaneously.

Coming now to the results obtained, the accounts are very conflicting. Undoubted relief has been obtained in a considerable proportion of the cases; cancerous tumours have diminished in size, and have disappeared altogether in some cases. But some of the earlier cases reported as cured have since been found to relapse; in some cases the growth has recurred in the original situation, while in others cancerous deposits have formed in internal organs. It seems fairly certain that in some cases cancerous growths may be cured in their early stage by radium, but it is not yet justifiable to attempt this unless the patient is so feeble (through heart disease or Bright's disease, for instance) that the removal of the growth by operation could not be undertaken.

When the surgeon has declared a case inoperable, radium (or Röntgen ray) treatment is used as a last resource, and the attempt is usually a desperate one. It is something, then, to be able to report the complete disappearance of malignant growths in some of these cases, even though the final result is not a cure. The local treatment of cancerous growths does nothing to prevent dissemination of the disease in the internal organs, and it is with the idea of achieving this result that attempts have been made to cause radium or its emanation to circulate through the body. In doing so it must be remembered that the alpha radiation is giving out its full energy in the body; and since this radiation possesses about a hundred times as much energy as the beta and gamma radiation together, it is clear that for practical purposes we may disregard the effect of the gamma radiation in this connection. Now, we started with the postulate that the alpha rays are indiscriminately destructive, so that if enough is allowed to circulate in the body to destroy cancer cells, the normal cells of the body will also be destroyed. It must be allowed, however, that the observations upon which this postulate are founded are by no means conclusive, and though there is no doubt that the alpha and soft beta rays destroy normal cells far more readily than is the case with the gamma rays, it may still be true that they too possess some degree of selective action, if the dosage be regulated with sufficient accuracy.

This branch of therapeutics is still in its infancy, and it would be a mistake either to raise delusive hopes because some cancerous growths have been made to disappear under its use or to declare it useless because disappointments are common. One disease, rodent ulcer, is cured by the use of radium in the great majority of cases, only a few rodent ulcers proving refractory to its use. There are, however, other methods of curing rodent ulcer. The further development of this branch of medical science will be watched with great interest.

A SIMPLE METHOD OF ELECTROPLATING.

AT a meeting of the Royal Society of Arts on February 2, a paper by Mr. A. Rosenberg was read upon an improved method of electroplating. Mr. Rosenberg dispenses altogether with the plating bath and all external sources of electricity. The plating is carried out simply by rubbing on a powder moistened with water. The process is really a refinement of the old contact method. It will be remembered that in this process a piece of metal which it is desired to plate upon is immersed in an electrolyte, for example, one containing a silver solution. In contact with this metal a more electropositive one is placed, also dipping into the electrolyte. This metal, usually zinc, passes into solution, and an electric current thereby is generated. The silver is then plated-out upon the less electro-positive metal.

Mr. Rosenberg employs his electro-positive metal in the form of a fine powder, and generally uses magnesium. This is mixed with a metallic salt or with the powdered metal it is desired to plate-out, and ammonium sulphate or other ammonium salt. In order to plate a piece of metal the powder is moistened with water and rubbed over its surface by means of a piece of rag or a brush. By this means adherent and bright deposits are obtained in about one minute, the thickness of the deposit depending upon the time employed and the quantity of powder used.

The magnesium, being strongly electro-positive, reacts with the moist electrolyte, and goes into solution, causing the metal to be plated-out upon the metallic surface which is being rubbed. In other words, each particle of the powdered magnesium may be said to function as a minute anode. One of the difficulties in electroplating is to plate a substance upon itself. It is easy enough when plating has once commenced, say on a spoon, to give it almost any thickness of deposit; but if the spoon is once withdrawn from the bath and used, it cannot be plated further without first stripping off the old deposit. Mr. Rosenberg claims that with his process this difficulty does not occur.

Another great difficulty in electroplating is the cleansing of the article to be plated; the least trace of grease, even that produced by handling, for example, will prevent an even and adherent deposit. Consequently, articles have, as a rule, to be chemically and mechanically cleaned before being put into the plating bath. With the powder, "Galvanit," of Mr. Rosenberg this is not necessary, because the act of rubbing the powder carries out its own cleansing.

The author's object has been to produce a household method of plating. Thus, when the tinning of saucepans is worn out, the householder has only to polish the inside with the moist "tin Galvanit" to re-tin the saucepan. Spoons from which the silver-plating is partly worn can be re-plated. The "nickel Galvanit" can be used for bicycles and so on. Mr. Rosenberg demonstrated the process before the meeting by plating an iron tube with cadmium, a copper tube with nickel, a penny with silver, and a brass tube with tin.

"Galvanit" can also be used for nickel-facing electrotypes. The process is certainly ingenious, and will no doubt be found useful for small work, but it