Sir Ernest Shackleton

WHILE his ship, the "Quest," was lying at anchor off South Georgia Island, lonely outpost of the Falkland Island colonial administration, Sir Ernest Shackleton, the Antarctic explorer, died of heart disease on January 5th. The news of his death reached the civilized world only on the 29th of the month, with the arrival at Montevideo, Uruguay, of the Norwegian tramp, "Professor Cruvel," bearing the body. Sir Ernest died of heart disease which, so far as we know, had never been observed to be constitutional with him. He had been slightly under the weather on retiring the previous evening, but nothing was thought of this. At 3:30 A. M., however, he underwent a sudden collapse, and died within three minutes.

Shackleton was born on February 15th, 1874, at Kilkee, in the south of Ireland. He was the eldest son of the local physician. He was educated at Dulwich College and then entered the merchant marine. In 1901 he was third lieutenant of the National Antarctic Expedition, under the late Captain Scott. The interest in such work which was aroused at this time remained with him for the rest of his life, and supplied the driving influence for most of his later activities. He first became prominent in the field of Antarctic exploration when he commanded the British Expedition of 1907-09. On this trip Shackleton attained the farthest south record of 88° 23′, only 97 miles from the pole—a mark which was surpassed only when Scott and Amundsen later reached the pole itself. The expedition of 1907-09 was perhaps the first of the south pole explorations which brought back scientific results of large value. In addition to the relocation of the south magnetic pole, the party collected meteorological, biological and zoological data of real consequence; and made as well notable additions to the technique of polar exploration itself.

Shackleton's most dramatic voyage was the one of 1914-16. The program here was to cross the south polar continent from sea to sea. Although this idea was not put into successful execution, and although the expedition brought back scientific results of relatively small value, the enterprise turned out to be by all means the most adventurous onslaught ever made by man upon the polar regions at either end of the earth. The ship, the "Endurance," entered the ice near South Georgia in December, 1914, and a year later was crushed at a point to the east of Graham Land. From this date, November 24th, 1915, until April 9th, 1916, the party drifted with the ice floes. On April 9th, 1916, they encountered for the first time sufficient clear water to justify the launching of their boats. Six days later they landed on Elephant Island, 300 miles from South Georgia. Shackleton and five of his men presently set out in a 20-foot open boat through snow, high winds and heavy seas. This sortie was successful, an inlet on the wrong side of South Georgia being made in safety on May 16th. With the two men who remained in best condition for the trying trip, the commander then set out through the interior of this desolate island, mountainous and glacier-covered, and reached the whaling station in Stromness Bay, on the north side of the island, from which the "Endurance" had sailed in 1914. Shackleton must have presented a good deal of an apparition to those in charge of the station, and the extraordinary character of the whole incident was in no wise abated by his first question—a demand to know when the war had ended!

After sailing around and picking up the other members of the emergency expedition, it was next in order to undertake the rescue of the 22 men left behind on Elephant Island. After three failures, he finally got to them and brought them off in a Chilean tug. It then developed that there was more rescuing to be performed. The "Aurora," which had been sent around to the New Zealand side of the antarctic continent to await Shackleton's arrival and to pick him up, had been driven off to sea while ten of her men were on the ice, and had been so badly crippled that it was with difficulty her navigator was able to make a New Zealand port. Characteristically enough, nobody seems to have worried much about the ten marooned men until Shackleton himself got wind of their plight. Three of them, it turned out, had died; but the surviving seven Shackleton brought off to New Zealand.

It might have been thought that this experience, coupled with that following his 1907-08 expedition, would have been enough. In 1910, it will be recalled, after the British Government had repudiated the costs of the 1908-09 journey, Shackleton met as much of them as he could from his own resources, and then undertook a lecture tour of this country to raise the balance so that he might reimburse his friends who had advanced the funds to make the expedition possible. But neither this nor his adventurous time of 1914-16 damped his ardor, and in September, 1921, he left England on what was destined to be his last exploration. He was to be gone two years, and cover some 30,000 linear miles of uncharted waters in the Antarctic region. After damage incurred from rough water off Portugal, the "Quest" laid up in Rio de Janeiro for repairs; and it was from this port on December 18th that Shackleton made his final departure from civilization in the little 200-ton craft.

It was his human side that made Sir Ernest Shackleton such an interesting personality. He was a man of fine impulses, of great fearlessness and of unlimited enthusiasm for his work. He was modest in the estimate of his own accomplishments; always fair in awarding full justice to his subordinates; and more than generous in his recognition of the achievements of other explorers.

Sir Ernest Shackleton

German Scientific Books

DESPITE the severe conditions which we must believe the depreciation of the mark to have brought about in German industry, especially of the less essential sorts, the German publishers are beginning to get into their stride again after the long hiatus of actual war times. Within the past few weeks we have received from a single publisher, W. Engelman of Leipzig, copies of a number of volumes that indicate this. None of them is a new production from the point of view of authorship, but all are new editions, and in some cases it is clear that the entire volume is from new type.

Perhaps the most interesting of these items is a sixth edition of Newcomb's *Popular Astronomy*, which carries the name of Dr. Ludendorff on the title page as responsible for the German form of this edition. The text, tabular matter and illustrations are well up to the high mechanical character of German prewar scientific books.

Another old friend whose tenure of life has been restored by a new printing is Kowaleski, *Die Klassischen Probleme der Analysis des Unendlichen.* In the new edition as in the old we have an admirable example of the ability of the German typographer to deal elegantly with complicated mathematical notation. No mathematical library may be considered complete without this work.

For some time it has been the unfortunate case that trigonometric and logarithmic tables of more than four or five places have been either altogether out of print, or obtainable only at exorbitant prices. It is therefore a pleasure to chronicle a reprinting, apparently from the old plates, of Peters excellent seven-place tables, and likewise of the eight-place tables in two volumes that bear the names of Bauschinger and Peters. The former gives trigonometric functions (in the logarithmic form) only; the latter gives as well the logarithms of numbers up to 200,000. In both volumes the trigonometric tables are presented for every second of arc.

There appears to be just one drawback in regard to these volumes and others like them. When they were prepared, a little printed card was got up to accompany them abroad, explaining that owing to the exchange situation a premium of 50 per cent over the quoted prices would be required of all overseas purchasers. Before they were sent out it was found necessary to alter this figure by rubber stamp to 100 per cent; and in the case of those most recently received, the "Valuta Aufschlag" has gone up to 200 per cent. We have had several experiences of late which demonstrate that the surcharge which the canny German tries to make for the doubtful privilege of doing business in his utterly worthless currency customarily multiplies itself by two or three during the interval between his quotation of a price and his customer's acceptance. We don't know just how one can do business on this basis, save by keeping constantly in mind that the quoted price in marks is so low (not more than 150 marks for any of the above volumes, fairly well bound) that if one really wants them one can afford to pay pretty nearly any fine which the publisher may seek to impose upon him for the privilege of purchasing them.

George Baldwin Selden

THE last echo of a *cause celebré* was heard when the daily press of January 17th chronicled the death in Rochester, N. Y., of the Selden patentee. Mr. Selden will be remembered as the inventor who collected royalty for many years from the bigger half of the American automobile industry on a patent which claimed the aggregation of engine, clutch, fuel tank, carriage, etc., into an automobile; but which really did not cover the modern gasoline automobile at all. He had filed his application in 1879, and by exhausting every artifice permitted under Patent Office procedure, had kept it "pending" until he was obliged in 1895 to accept its issue. Only when the patent was within a few months of expiration was his prosecution of unlicensed makers finally thrown out of court.

Mr. Selden had believed in the future of the automobile, and had planned to capitalize that future by means of his patent. But he had regarded the constan- pressure, slow-burning Brayton engine, not really an explosion engine at all, as the ultimate type, and had specified it more or less explicitly in his claim. One is led to wonder whether he was not in ignorance of the existence of the Otto engine; for it seems that it would have been easy to broaden his claims to include any gas engine using liquid fuel. In any event, the automobile was developed commercially using the Otto explosion engine; so that the Court was ultimately able to decide that the Selden patent, while valid in itself, was not infringed by any of the defendants against whom suit had been brought under it. We may infer that the Court reached this decision with a certain degree of satisfaction, for Justice Hough in the opinion stated: "No litigation resembling this case has been shown to the Court, and no instance is known to us of an idea being buried in the Patent Office while the world caught up to and passed it, to be then embodied in a patent useful for tribute only."

Throughout the long litigation under the Selden patent, the SCIENTIFIC AMERICAN had maintained this viewpoint, and had been outspoken in its condemnation, on legal, technological and moral grounds alike, of the patent and the effort to levy upon the industry through it.