

# My Experiences With

The noted Polar explorer gives an exclusive account, with hitherto unpublished pictures, of the photographic problems and hardships he encountered on an expedition to the Antarctic and South America.



Dr. Frederick A. Cook (left) and Roald Amundsen, photographed in the Antarctic.

WHEN Dr. Frederick A. Cook proclaimed his discovery of the North Pole nearly thirty years ago he immediately became storm center of one of the bitterest geographical controversies in history. From the centers of civilization to the wilds of Africa men argued and quarreled: was it Cook or Peary who first reached the Pole?

Then, as now, many outstanding geographers and scientists believed that Cook had been successful. Others, equally authoritative, believed that he had not. Unfortunately, the noise of this wild controversy has tended to obscure many very real contributions to science made by Dr. Cook.

A little known chapter of his life is the two years he spent as surgeon and photographer for the Belgian Antarctic Expedition of 1897-99. When scurvy broke out he scoured the ice packs for seal and penguin, and persuaded his companions to eat the rare meat until health was restored. Later, when the entire expedition seemed doomed to perpetual imprisonment, it was Dr. Cook's resourcefulness that saved the little vessel. For these heroic services Dr. Cook was knighted by Leopold II, King of the Belgians.

Dr. Cook's photographic work on this expedition has had unique value. The Indians he pictured are now virtually extinct, and even with the primitive equipment he employed his work shows great technical excellence. The photographs illustrating this article taken by Dr. Cook are printed here for the first time.—Editor.

IT IS the duty of every explorer to present by word and picture the results of his discoveries. The staff of every expedition therefore should be selected accordingly, but this is rarely done. As a rule, one big outstanding issue gives purpose and destiny to every exploring enterprise. To be successful in this one major quest requires workers who, unfortunately, are seldom trained as writers, painters, or photographers. It therefore happens that narratives and reports of exploration are all too often penned by ghost writers and illustrated by arm chair artists.

To explorers and to the future pages of history, good photographs survive as vital documents of tremendous importance. If we had such pictures taken by

Dr. Cook today is still vigorous at more than 70 years of age, as revealed by this recent candid shot taken by Ted Leitzell.

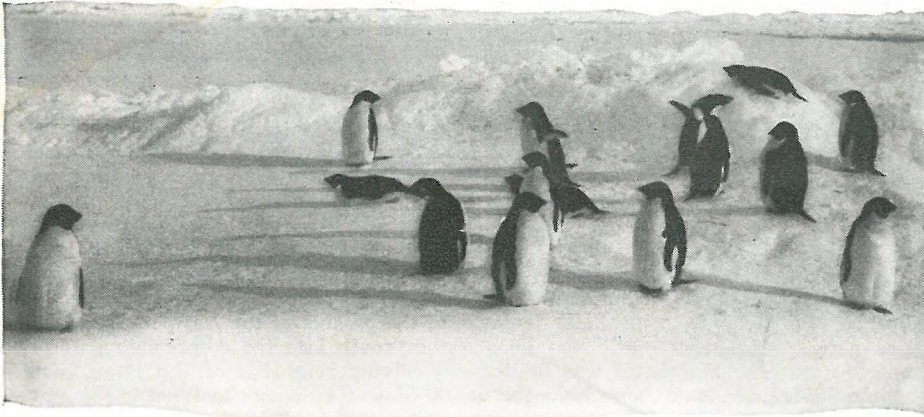
An Ona Indian woman, 6-feet 6-inches in height, photographed by Dr. Cook in the Patagonian forests some forty years ago.



This remarkable photograph of the ice-locked "Belgica" was taken by moonlight with an exposure of 1½ hours. Better detail was obtained than in any shot made by day.

# A Camera in the Antarctic

by *Frederick A. Cook*, M.D., Ph.D.



The Antarctic is a penguin world. Dr. Cook snapped this picture of the little fellows as part of one of the first photographic studies ever made of their life.

early pioneers who saw the Indians when really primitive, we would not now use half-civilized mixed bloods to give a false face to all Indian lore. If photography had been invented and liberally used earlier, the records of this good old world would have a different slant.

I have been at work for some time in the preparation of two books. Both are memoirs. The first is a background study of my adventures along the Polar frontiers. The second is a pictorial review, mainly of photographs. To me the photo reminiscences are by far the most interesting, because a photo background becomes more alive every time it is studied. Photographs endure the stress of time better than words.

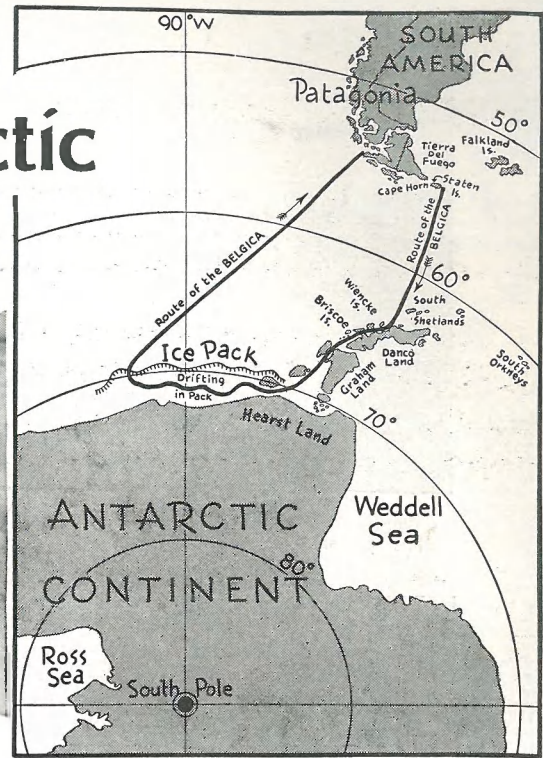
Either as leader or as an officer of the

scientific staff, I have been associated with seven expeditions to the Arctic, one to the Antarctic, and one to the south seas and around the world. These long range voyages have supplied a multitude of experiences.

With the preliminary preparation and supplementary work, combined with minor projects of research, fifty years of my life have been spent along the brim of the unknown.

The special phases covered by this narrative are the photographic endeavors and part of the background and experiences of the Belgian Antarctic Expedition of 1897-99, which was the first of the modern series of exploring projects toward the South Pole.

The Belgian expedition was organized

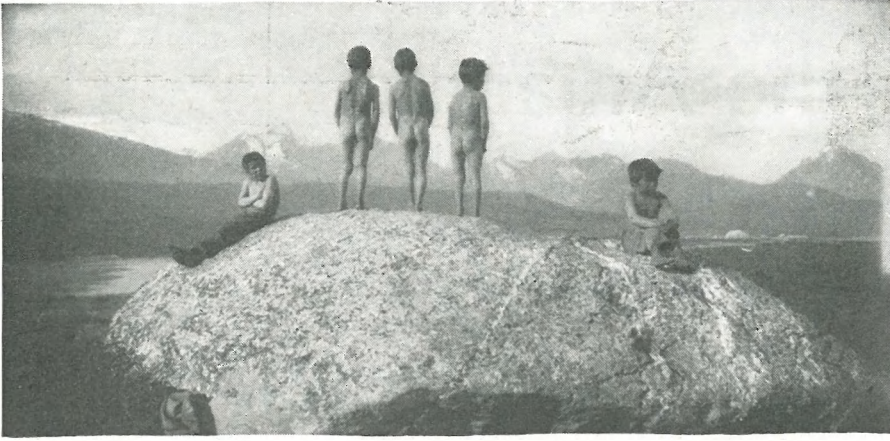


The route of the "Belgica" on which Cook sailed as surgeon-photographer for the Belgian Antarctic Expedition in 1897-99.

Member of a fast vanishing race, this 7-foot 2-inch Ona Indian was permanently recorded for science by Dr. Cook's camera.



This tent and sledge equipment was devised by the crew of the "Belgica" (ice-locked in left background) in 1898. Amundsen used this equipment in 1911 to reach the South Pole.



These Yahagan Indian boys were photographed by Dr. Cook in Tierra Del Fuego in 1897. His pictorial studies of the vanishing Fuegian tribes are invaluable to science.

by Lieutenant Adrien de Gerlache. It was financed partly by private subscriptions and partly by government grants. The work was sponsored by King Leopold II.

I volunteered as surgeon of the expedition, to serve without pay, and joined my mates at Rio de Janeiro. Like other officers and members of the crew I was instructed that every person must be ready and able to serve in other departments when help was necessary. To my lot, in addition to being surgeon, advisor, and general assistant, fell also the departments of anthropology, photography, sleds, and camp equipment.

Our vessel was a staunch Norwegian sealer, somewhat rebuilt and renamed the *Belgica*. Most of the food and equipment, half of the sailors, and one of the officers—Roald Amundsen—were from Norway. Captain Georges Lecointe, a brilliant young Belgian who had served with honor in the French navy, was executive officer.

Our photographic equipment was French and German, with Zeiss lenses and glass plates. The outfit was good, but my amateur experience was limited to the Kodak. In camera technic there were headaches ahead for me.

The *Belgica* left Ostend, Belgium, on August 24, 1897, and began her long drive to the antipodes from where she was not to return for over two years. Leaving Rio de Janeiro at the end of October, the complex task of our plan of exploration was really begun. The departments were manned and the work co-ordinated as we sailed out of the torrid zone and into the south temperate regions.

We dropped anchor off Punta Arenas, then and now the most southerly town on the American hemisphere. Here some time was to be spent, to gather data, to check and compare instruments. We had to stock up with coal and food, before our departure—from the little known—

An Ona Indian Camp > in Tierra Del Fuego. Photographs such as this, recording their life and habits, form an indisputable, pictorial record for the ethnologist and the anthropologist.



Living at the southern tip of South America, these Ona Indians were being exterminated by the advance of civilization. They ranged from 6 to more than 7 feet in height. >



for the entirely unknown icy south.

This gave me the opportunity for Indian studies and photographic experiments. For 400 years, since the days of Magellan, the south end of South America, Patagonia and the Fuegian Islands, had been looked upon as a kind of southern Siberia. The Spanish rated this no man's land as unsuited for colonization—good only for Indians and fools. But suddenly this idea changed; so much so that Chile and Argentina cleared the decks for a rival war of conquest.

A stampede for gold and fur seals was on, but above all, this long neglected land proved to be ideal grazing ground the year around for horses, cattle, and sheep. It was quickly seen that this poleward march of civilization would mean extermination of the five tribes of Indians in that district.

It therefore became a prime duty of the Belgian expedition to record what it could of the passing of the last people the farthest south. I started at once among the few surviving remnants of the Patagonians. A Chilean gun-boat took me to the western islands and finally the *Belgica* made a search of primitives going south. On our return from the polar regions, Argentine gun-boats took us to about all the eastern and southern camps. Thus unexpectedly I was able to study and photograph the unfortunate Indians, most of whom have since passed.

During our absence in the Antarctic, the hostility between the land-grabbing sheepherders and the Ona Indians of the islands became intense. Shepherders shot and killed Indians, and the Indians drove sheep by the thousand into the mountains. The sheep men, in desperation, combined interests and sent in two missionaries to act as mediators and to Christianize the savage clans. The net success of this mission was the disappearance of the divine servants. Their hats were found later, but not their bodies.

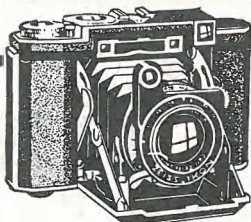
In the face of this hazard it was considered prudent for me, when I returned to continue my anthropological studies, to work with military representatives and with the still friendly mission Indians of the east and south. Protected in this way I secured my best photographs: Onas, who ranged from 6 to 7½ feet in height, wore one piece suits of guanacho skins, and had bull strength and horse endurance. These pictures had not been equaled before, and have not been surpassed since.

Now let us cover a few features of our experiences through the first Antarctic night. We took our departure from South America at Staten Island, northeast of Cape Horn, a huge rock that is the most famous headland of the southern seas. When we were many miles away, sounding to make a map of the ocean bottom, we thought we saw it on the horizon. Every camera on board pointed to the rock, but the results were zero. Perhaps we needed filters like those used by modern explorers. Then we continued south and sailed for eight hundred miles over the most savage sea of the world.

Early one morning the sea heaved in lazy undulation. It was dawn, but the surface was aglow with light that seemed

(Continued on page 90)

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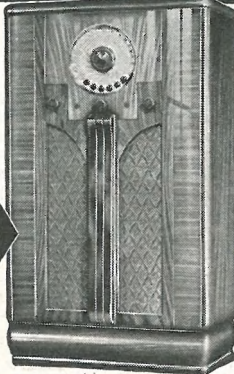
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Trade Notes and News

(Continued from page 66)

is known as the Fotimer and is compact and easy to use, being of the slide rule type. The meter is made to be used for both indoor and outdoor pictures, day or night. Full directions for its use are printed on the back of the slide and detailed examples and film speeds are given on an additional sheet. The device sells for \$1.00 and can be obtained through dealers or direct from the manufacturer.

COLORSTIL PRINTS, 8 x 10, from minicam Kodachrome positives are being made by the Ruthenberg Color Photography Co., Hollywood, Calif. The low price of \$5.00 for these color prints is made possible through the use of the patented "Colorstil" process. The company states that the prints are natural in color, permanent, and may be had in glossy or semi-matte surface. Color correction is possible if desired and the process in no way affects the original transparency.

A BOOKLET entitled "Development vs. Exposure," written by Herbert C. McKay, has just been issued by the Raygram Corp., 425 Fourth Ave., New York City. It explains the influence of exposure on development and discusses the technical phases of this branch of photographic chemistry. Included are tables showing development time for popular films to any desired gamma with Infinol, a fine-grain developer made by Raygram. The booklet may be had on request by writing to the company.

CLUBS, SCHOOLS, associations, etc., may secure for private showing the new 16 mm. motion picture film "Beyond the Rainbow," produced in duplicating color by the Calco Chemical Co., Inc., Bound Brook, N.J. The film, which dramatically tells the story of the dye industry, is educational and interesting and takes 44 minutes to show. Organizations interested should write to the Motion Picture Laboratories of the Calco Chemical Co.

AMATEURS ARE invited to send for a copy of the new Bass Bargaining No.

233, Still Camera Special, a 52 page book listing good buys in used cameras as well as new apparatus. Besides cameras the booklet lists a large variety of accessories including enlargers, meters, tripods, etc. A copy will be mailed on request. Write to Bass Camera Co., 179 W. Madison St., Chicago, Ill.

AGENT FOR the Robot camera, the Intercontinental Marketing Corp., of 10 East 40th St., New York City, is distributing an attractive new booklet entitled "The Camera That Never Loses A Picture." In addition to explaining the mechanism of the sequence-shooting minicam, the booklet shows how the small sequence pictures may be enlarged. It contains scores of interesting examples of work done with the Robot. A copy of the book may be obtained from your dealer or direct from Intercontinental Marketing Corp.

THE EXAKT enlarger, a new Henry Herbert import, is now available. Because of its extreme ease of operation and unlimited scope it offers all the conveniences of an automatic enlarger with the added attraction of hairline adjustment that guarantees absolute focusing. Interchangeable lenses make it a simple matter to get the greatest possible enlargement from small as well as from normal negatives. Further information may be had by writing Henry Herbert, 483 Fifth Ave., New York City.

A NEW FIELD case for the Kodak Bantam Special has been announced by Eastman Kodak Co. The case is made in two sections, an inner shell that holds the camera horizontally and a folding outer shell that drops down hinge-fashion, out of the lens field. Construction is of fine tan "bridle" leather. The neck strap is attached to the inner shell, which is lined with velveteen. A spring-steel frame behind the lining gives added safety grip, and a cut-out at the back allows access to the film window cover. The case retails at \$8.50.



Bantam Special Case.

Dr. Cook Photographs The Antarctic

(Continued from page 14)

to come from below. Ahead we could see widely scattered floating ice, and beyond, partly screened by haze, was land—a continuation of the Andes in spinal projections of which Cape Horn had been a part.

For us it was a new world of light and color and life. In the air were millions of birds. The increasing glow of the sea was dotted with as many more birds, and other life. All nature was screaming, tooting, and blurring with the pathos and joys of a polar world undisturbed by man.

With little power the Belgica glided among penguins, seals, and whales into the floating crystal of this paradise of peace. A blanket of cold haze now grayed the sky. The sea turned blue, and glowed still more with just a touch of fire here and there. We were enraptured. Then came a "Thump!" Had we struck a whale? No, we had struck bottom, smashing hard with the ship's keel. But we had done this twice before, so why worry?

All cameras were out, snapping at everything. Again the results were nil. We had not yet learned to estimate the light correctly, and had no exposure meters.

With a rising tide we went off the rocky sea bottom more easily than we had gone on. Then, in icy water, we pushed south into a gathering storm until raging seas made progress unsafe. With all sail down, under low power, we waited better visibility.

Amundsen and I were on the bridge, and the other officers had gone below to seek a much needed rest. Suddenly there was an unearthly cry, a shout of anguish. "It is from the engine room," said Amundsen.

"No," I answered, "It is from the sea."

There was a signal to stop and a call for all hands on deck. In a moment we saw that Wiencke, a sailor, was overboard. In the breaking sea he had enough presence of mind to grab the log line. I took the deck end of the line and slowly pulled in, but I could feel his hands slipping.

Lecoite volunteered to go overboard to the rescue. We attached a rope to his waist, and over he went. He came to the surface beside Wiencke, but before Lecoite could grab him, the sailor was pulled under the ship by a strong current. Wiencke, with a death mask on his face,

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let go. We never saw him again. With gloom on the *Belgica* we next sailed over a mysterious sea under the gray dome of a passing storm. The mainland, charted as a solid mass sixty years earlier, was dead ahead. But sealers and whalers had later sailed over a part of this "land," and we were therefore in doubt. In due time, however, there arose before us under a clearing sky the sharp outline of a definite landfall, extending from east to west, to the limits of vision. The way was now cleared for map making and for every phase of the exploration which is a prelude to discovery. There were some icebergs behind, and some scattered fields of sea ice lay ahead. These encumbrances had the effect of oil on the rough seas through which we had been passing. Life in the air and in the sea again increased rapidly.

Still nearer we noted that the land mass along the skyline was not unlike that of Tierra del Fuego. Lowlands were buried under glacial ice, but the tops were angular, indicating that the Andes, which with the Rockies of the north form the backbone of the American hemisphere, were again before us. (A later study of the rocks proved that this was true.)

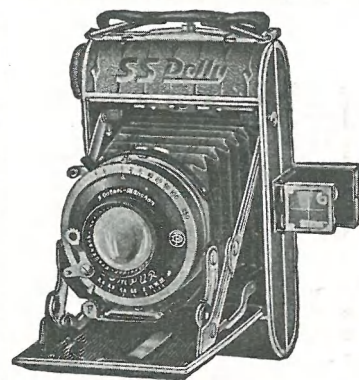
Of even greater import to us was the indication of a wide opening into this unknown land. We entered a strait leading southwest into the south Pacific, two hundred miles long and from ten to fifty miles wide. To the west were high islands. The most picturesque of these was named Wiencke Island as a monument to our lost sailor. To the east was a high mainland, as we then charted it. This was later named Danco Land to stand as a memorial to Lieutenant Danco who died in the early part of the long night.

We emerged from the strait and tried to follow the land poleward, but were forced away from it by a land-adhering pack. We were caught in this same ice pack and taken for a ride that endured for thirteen long months in which we drifted for about two thousand miles across an unknown sea.

Storm was so continuous during the early part of this drift that we seldom saw the sun during a period of several months. Few photographs were successfully made at this time, but we were learning important camera lessons. The first was that snow is never white. It takes the color of the sky, and with our equipment this color, with a lack of shadows or relief objects not covered by snow, gave results of very little use.

As the cold increased the air became less humid, and then, in the few brief spells of sunshine, the pack configuration became fascinating to the eye. The camera, however, gave ugly negatives.

There were important lessons in this respect. Polar light is not as strong as it seems. Exposures must be longer as you near the Pole, for there the sun is never high and there is little actinic light. For this reason, snapshots seldom gave good negatives. However, when the air is clear, the temperature low, and the sun shining brightly, every snow crystal acts like a diamond. The halo produced by this crystal snow gave a confusion of glitter which we found could only be

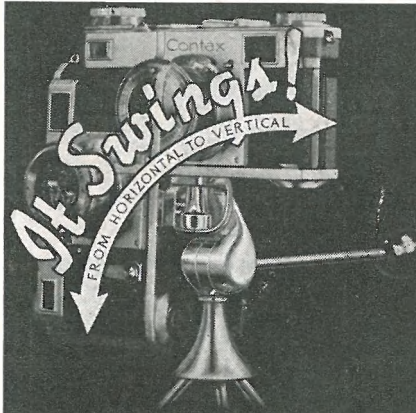


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eliminated by very small diaphragm openings and increased time of exposure.

Because of the photographically adverse weather conditions, and our inexperience, we went into the long night with perhaps five hundred camera exposures to be thrown away. Our methods were now studied more carefully. We still had plenty of plates, but the fast emulsion plates did not keep well and too often failed in results. The slow emulsion plates were, however, superb. There was plenty of developer, but our hypo was nearly all used. It was necessary therefore to devise a new fixing bath or stop developing.

The near exhaustion of our hypo supply was now a grave menace, and to me it became a vital issue to seek for a substitute. We knew that exposed plates could not be taken home successfully across the torrid zone unless developed, fixed, and well packed. We had very little technical literature on photography, and what we did have was written in French, which I did not read well. No one in the laboratory could help me. In an old copy of the British magazine *Answers* there was a brief mention of the use of prussic acid as a fixing solution for daguerrotypes. Here was hope, but it was to be a play with the shadow of death.

We had on the *Belgica* twenty gallons of hydrocyanic acid, used to kill animals for specimens. One drop on the tongue, and it was all over for the animal. I began to experiment, knowing the grave danger of the poison. In due time I formulated a solution of proper strength, and thereafter we used prussic acid as a fixing bath. Needless to say, nobody remained in the darkroom during fixing.

The most remarkable picture made during the long night was that of the *Belgica* by moonlight, with an exposure of one and one-half hours in a temperature forty degrees below zero. This photograph gives better detail than any daylight photo of the vessel.

The coldest season of the polar regions follows the night before the enduring glitter of the long day. At this time the making and breaking of the pack ice comes up for careful study and the camera is focused for an enduring record of the phenomenon. Now, however, mirages, halos, and other optical illusions so confuse the eye and so distort the imprint of the camera that often one cannot be sure of the object under observation. There are appearances of land and other objects which the camera does not get. The negative, on the other hand, will give signs of land and other configuration which the eye has not seen.

It is because of such optical illusions and retouched prints that photographs of explorers sometimes fail as documentary evidence. These illusions, under modern photographic conditions, should give better results. In this prospect there should be a new study in optics.

There was now an unknown destiny ahead for us, the conditions of which could not be forestalled. We had planned to make a landing at a point to reach and study the south magnetic pole. The courage of the men was good for any emergency but all were suffering from a form

of anemia which I knew to be the first stage of scurvy in polar regions. We were hopelessly beset and adrift in a dangerous pack. To find a cure for our physical ills and to devise a means of escape for the *Belgica* from the large field of ice in which we were frozen, was for me and for all a most urgent duty.

We saw no land, but with the deep sea apparatus we brought up submarine life and samples of the sea bottom, often enough to excite interest. In this task there was thrilling work for everybody.

The photo habit of that time was to make pictorial scenes, portraits, and animal studies. The old school of photography had not yet broadened its scope to record the utmost scientific detail which for us was vitally necessary.

About us there was a new world, a floating horizon with a solid distinctive topography of crystal inhabited by a weird animation. Little was then known of the details in the winter making and breaking of the south polar ice pack. The iceberg, though old in polar lore, was still new in the eyes of our specialists.

All polar ice, like life, evolves new types. The iceberg, a mountain of plastic crystal, nature's most spectacular product, a thousand years or so in the making, will give new studies to every eye for all time. The camera possibilities we saw were only partly registered, but what we did get had not been done before and has not been duplicated since.

To me the appeal is greatest in the prints which give the most important results of our discoveries. The Antarctic pack is the most powerful mill on earth. I therefore found, and still find, keen interest in the moonlight picture of the pack-imprisoned *Belgica*. The Yahgan and Ona Indians are today nearly extinct. Our photos of them have permanent value to anthropologists.

Excepting only bugs and fish, the penguin is one of the most numerous creatures of creation. The Antarctic is a penguin world. Therefore photographs of its food, the surface shrimp, are of equal scientific importance with pictures showing the penguin's social habits, or close-ups of head and feet.

I found a positive and ever useful remedy for scurvy in the use of raw penguin and seal meat for food. As the good effect of this treatment became assured, I devised a plan to release the *Belgica* by sawing a channel from the nearest open space to the ship.

When we escaped from what seemed like a death-dealing embrace of crushing pack ice, the season was too far advanced to continue. Furthermore, our supplies were insufficient to risk another winter within the frozen South. Accordingly, the prow of the *Belgica* was turned to the north, and our voyage of exploration was over.

I have tried to indicate the problems of photography forty years ago, and the conditions under which the work was done. The improvements since in equipment, in applied art and science of a new technic, and especially in the ultimate usefulness of results, are so vast that photography is now within its own sphere a tremendous field for genuine exploration.—