

GENERAL SCIENCE

American Found Antarctica, Philosophical Society Is Told

American Mariner Only Twenty Years Old Made Find On Sealing Voyage; Greek Coins Reveal Trade Upset

THE LOG book of Captain Nathaniel Brown Palmer of Stonington, Conn., adventurous early nineteenth century American mariner, was offered to the American Philosophical Society as proof that Capt. Palmer and his shipmates were the first ones to set eyes on Antarctica.

Found by Col. Lawrence Martin, chief of the Division of Maps of the Library of Congress, in the possession of Capt. Palmer's descendants, who still live in Stonington, the log book constitutes the first direct proof that the Yankee skipper was the discoverer of the great white continent to the south, Society members were informed.

A new chapter in an old geographical dispute between the United States and Great Britain has been written as a result of the find, the Society has learned.

Immediately after Col. Martin presented his report describing the find, Prof. William H. Hobbs of the University of Michigan took issue with British authorities for continuing to call the land found by Palmer "Graham Land" to honor a British mariner who sailed along its coast a dozen years after the American.

A fascinating story of high adventure in the icy seas below the tip of South America and of international rivalry was told by the two men in their respective papers.

Seven Ships

Capt. Palmer commanded one of a fleet of seven sealers that left Stonington, a famous port of another day, on Aug. 31, 1820, to hunt seal in the Antarctic. Two months later six of the ships laid over in President Harbor in the South Shetland Islands to prepare for sealing while Palmer was sent out to locate a better harbor.

It was on November 17, 1820, that Capt. Palmer in his 44-ton ship, the "Hero," sighted the peninsula that juts out of Antarctica toward South America and is called by geographers today "the American Salient." Capt. Palmer's

name was given to the land, but subsequently British mapmakers persisted in naming most of it and eventually in referring to all of it as "Graham Land."

Capt. Palmer has been generally credited with finding the great white wastes to the south of South America, but the evidence until now has been purely circumstantial. Interviewed by Science Service, Col. Martin related that he found the logbook on a trip to Stonington in search of old papers. A specialist in maps and charts, he was looking mainly for old maps when he stumbled across the logbook, a much more valuable find. He had been visiting one after the other descendants of old seafaring families in the hope that they would have maps of interest to the historian.

Cruised For Week

Capt. Palmer, who was a mere strippling of twenty when he made his discovery, sailed along the coast for a week. The stretch of land he found was

thought for many years to be a peninsula and it is believed to be that today. However, a few years ago Sir Hubert Wilkins, in his flights across the southern ice camp, reported that it looked like an island to him.

"Lightning" in Tube

An electrical discharge in a tube filled with gas behaves like a stroke of lightning, Prof. J. W. Beams of the University of Virginia and Dr. L. B. Snoddy reported to the Society.

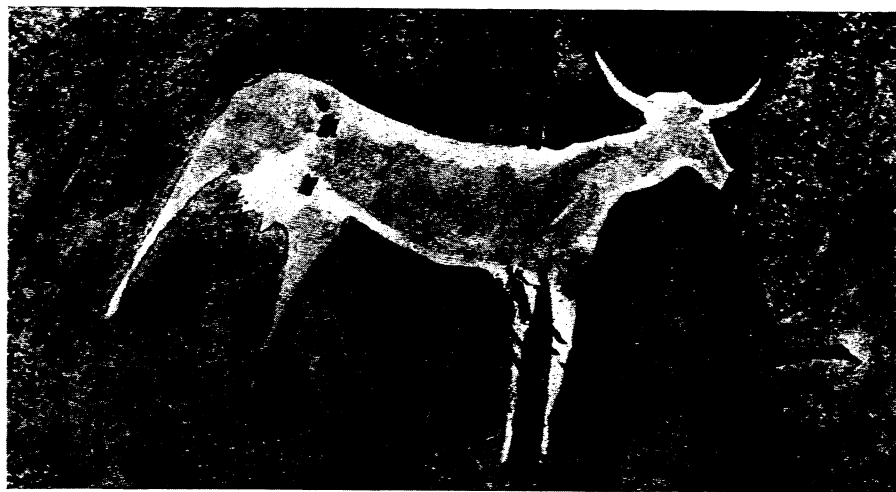
Studying the speed with which luminosity traveled in a long discharge tube, the two researchers found a discharge that appeared to correspond to the "leader stroke" of lightning and a return discharge that was similar to the return stroke of a flash of lightning.

Short On Tin

Greek coins, short on tin, reveal an ancient trade upset that happened when mighty Carthage was destroyed, Dr. Earle R. Caley, Princeton University chemist, informed the American Philosophical Society meeting in Philadelphia.

Predicting that modern pennies—now 95 per cent. copper and five per cent. tin and zinc—may be changed chemically, recording another historic shortage of the important metal tin, Dr. Caley said:

"It seems likely that, at the present rate of tin consumption, the time will



HONOR TO THE COW

Antiquity and wide distribution of the cult of the sacred cow is attested by this rock painting, probably of Stone Age date, found in what is now arid country in Lybia, North Africa. It shows a circle of devotees dancing around behind a huge figure of a white cow. (The larger figure without a head is probably not a part of this painting but of another group near by.) This picture, shown at an Art of Early Man exhibition of the Academy of Natural Sciences of Philadelphia, was supplied by the Museum of Modern Art, New York.

come again when coinage of bronze will cease."

Dr. Caley, in charge of the chemical laboratory at the Athenian Market Place—the first chemical laboratory ever set up at a Greek archaeological site—told of detecting a sudden change in bronze coins about the middle of the second century B. C. Apparently the tin supply was cut off, and coins were then made from scrap bronze which could be used in coinage by melting it with lead.

The coins shed light on economic history, Dr. Caley reported, by showing that long before Caesar's military campaigns in Europe cut off Britain's overland exports of tin to the Mediterranean, the tin trade was apparently halted on the seas by the destruction of Carthage in 146 B. C. That defeat ended the famous sea trade in tin, by which the Phoenicians and their later brethren the Carthaginians supplied the civilized world with this metal from Britain.

Rome's imperial coinage also reflected this scarcity of tin, Dr. Caley has found. From about the beginning of the Christian era, Rome's minor coins were of pure copper, or copper-zinc alloy. The tin-copper alloy, called bronze, disappeared as coin material in ancient times, not to be resumed to any extent until the United States and European countries revived bronze coins about the middle of the past century.

African Women Gangs

African women gang together to safeguard "women's rights" and they meet in secret society—no men allowed.

So an American expedition has found, studying the little-known Sherbro people of Sierra Leone, in British West Africa.

Both men and women of this tribe have their secret societies, from which the opposite sex is rigidly excluded, H. U. Hall told the American Philosophical Society in reporting a study of customs sponsored by the Society and the University Museum, University of Pennsylvania.

Until British authority became effective in southern Sierra Leone, the men's secret society held even more power than the native chieftains, especially in maintaining law and order. It is still powerful and flourishing, Mr. Hall said. Not to be a "Poro" man, as the society is called, is not to be a man at all, in Sherbro opinion.

"The counterpart of the Poro, for Sherbro women," said Mr. Hall, "is the Bondo Society. It is the champion of women's rights and privileges. Novices

are instructed in these and in the duties of womanhood during a period of seclusion in the Bondo Bush, or grove, similar to that undergone by Poro initiants in their Bush."

Creates Dual Personality

Dual personality has been created experimentally in the psychological laboratory at the University of Illinois, by the use of the South American arrow poison, curare, Dr. E. A. Culler told the meeting.

Actions learned in one personality are forgotten during life in the other personality, he said. Dogs were the subjects of this Jekyll-Hyde experiment; the drug, by depressing the brain caused the animals to act on a different level of the nervous system.

Normally, learning takes place in the cortex of the brain, but when the brain is affected by a powerful drug such as curare, learning can take place at a lower level involving, presumably, subcortical parts of the nervous system.

But what is learned during the normal personality is forgotten under the influence of curare. What is learned during the curare personality, when the animal is functioning at the lower level,

is similarly forgotten when he returns to his normal personality.

Eggs Without Nuclei

Eggs of lower animals can develop without nuclei, either their own or those normally received from the sperm cells in fertilization, stated Dr. Ethel Browne Harvey, who worked on the problem at Woods Hole, Mass., and Naples, Italy, under a grant from the American Philosophical Society.

Dr. Harvey whirled sea urchin eggs in a centrifuge, subjecting them to a force 10,000 times gravity. This whirled the eggs in two, with the nuclei in the lighter halves. Then she applied chemicals and physical stimuli to the parts without nuclei, which caused the cells to divide and start development.

Division and arrangement of parts went on as though the cells were normally nucleated, until there were about 500 of them in the group and they had reached a definite early stage in organic development known as the blastula stage. These rudimentary organisms without nuclei lived in some cases as long as four weeks, whereas normal unfertilized sea-urchin eggs commonly die in a day or two.

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DOCUMENTATION

Page Selector for Bibliofilm Reading Apparatus Patented

AN AUTOMATIC page selector for users of bibliofilm reading machines (for reading books and documents recorded on motion picture film) was patented by Dr. Rupert H. Draeger, U. S. naval surgeon now on his way to join the Asiatic fleet.

The device, which stops the electrically driven projector for the film on which documents are recorded when a predetermined page has been reached, is one of a large number of microfilm appliances developed by Dr. Draeger at the instance of the Documentation Division of Science Service, the non-profit institution for the popularization of science.

Patent No. 2,099,682 covers the apparatus. Funds of the Chemical Foundation aided Dr. Draeger in his experimental work.

Object of the microfilm service, sponsored by the American Documentation Institute, is the recording on tiny photo-

graphic film bulky document files. The page selector is a part of the special projector required to read documents so recorded.

The machine, which takes advantage of the fact that motion picture film, with perforations along its edges, is used for recording the books, uses an electric motor and a variation of a standard counting device to stop the film strip when the proper page has been reached.

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Science's Impact on Society To Be Studied by A. A. A. S.

A TWO-YEAR plan for discussing the impact of science upon human beings, both as members of society and as individuals, was announced by Dr. F. R. Moulton, permanent secretary of the American Association for the Advancement of Science.