graphs on Education; $113,000 for the purchase of equipment for undergraduate students in the School of Dentistry and for alterations and additional equipment in the undergraduate laboratories and clinics, and $35,000 for a program of rehabilitation of the facilities of the Department of Pediatrics and Communicable Diseases.

Nature writes: "The January issue of the *Anglo-Swedish Review* announces that the Bergianska Trädgärden or Bergianum, the botanical garden of Stockholm, is to mark its hundred and fiftieth anniversary this year. It was founded in 1791 by Peter Jonas Berg, a doctor of medicine and a botanist, who bequeathed it to the Swedish Academy of Science. It consists of a purely scientific botanical section and a practical section, which in peace-time carries on a large exchange of seeds with most of the botanical gardens abroad. Among the latter is the botanical garden of Tokyo, which had to place considerable orders to complete its collections, part of which were destroyed in the earthquake ten years ago. The Bergianum is also in close touch with the United States, and some plants from the salt steppes of Russian Turkestan recently came from Russian botanical gardens. Most of the seeds received are of purely scientific interest, but sometimes seeds and plants of commercial value are also received. The results of experiments on the effects of the vigorous cold of the last two years on different plants will shortly be published in *Acta Horti Bergiani,* which contains the results of research work in systematics, cytology and embryology. The celebrated collection known as 'Iconotheca Botanica Bergiana' contains 10,000 photographs by most of the botanists in the world."

DISCUSSION

THE EARLIEST ACCOUNT OF THE ASSOCIATION OF HUMAN ARTIFACTS WITH FOSSIL MAMMALS IN NORTH AMERICA

ON Saturday, 12 January, 1839, the following communication appeared in *The Presbyterian,* a weekly newspaper published at Philadelphia:

THE MAMMOTH

It is with greatest pleasure, the writer of this article can state, from personal knowledge, that one of the largest of these animals, has actually been stoned and buried by Indians, as appears from the implements found among the ashes, cinders and half burned wood and bones of the animal. The circumstances are as follows:

A farmer in Gasconade county wished to improve his spring, and in doing so, discovered, about five feet beneath the surface, a part of the back and hip bone. Of this I was informed by Mr. Wash, and not doubting but the whole, or nearly the whole skeleton might be found, I went there and found as had been stated, also a knife made of stone. I immediately commenced opening a much larger space; the first layer of earth was a vegetable mould, then a blue clay, then sand and blue clay. I found a large quantity of pieces of rocks, weighing from two to twenty-five pounds each, evidently thrown there with the intention of hitting some object. It is necessary to remark, that not the least sign of rocks or gravel is to be found nearer than from four to five hundred yards; and that these pieces were broken from larger rocks, and consequently carried here for some express purpose.—After passing through these rocks, I came to a layer of vegetable mould; on the surface of this was found the first blue bone, with this a spear and axe, the spear corresponds precisely with our common Indian spear, the axe is different from any one I have seen. Also on this earth was ashes nearly from six inches to one foot in depth, intermixed with burned wood, and burned bones, broken spears, axes, knives, &c. The fire appeared to have been the largest on the head and neck of the animal, as the ashes and the coal were much deeper here than in the rest of the body; the skull was quite perfect, but so much burned, that it crumbled to dust on the least touch; two feet from this, was found two teeth broken off from the jaw but mashed entirely to pieces. By putting them together, they showed the animal to have been much larger than any heretofore discovered. It appeared by the situation of the skeleton, that the animal had been sunk with its hind feet in the mud and water, and unable to extricate itself, had fallen on its right side, and in that situation was found and killed as above described, consequently the hind and fore foot on the right side, were sunk deeper in the mud, and thereby saved from the effects of the fire; therefore I was able to preserve the whole of the hind foot to the very last joint, and the fore foot all but some few small bones that were too much decayed to be worth saving. Also between the rocks that had sunk through the ashes, was found large pieces of skin, that appeared like fresh tanned sole leather, strongly impregnated with the ley from the ashes, and a great many of the sinews and arteries were plain to be seen on the earth and rocks, but in such a state as not to be moved, excepting in small pieces, the size of a hand, which are now preserved in spirits.

Should any doubts arise in the mind of the reader, of the correctness of the above statement, he can be referred to more than twenty witnesses, who were present at the time of the digging.[1]

The author of this communication was Albert C. Koch, fossil-hunter and proprietor of a museum at St. Louis, Missouri. Koch made a living by exhibiting his fossil collections all over America, in the British Isles and in Germany, and by selling to museums. He was greatly respected by his contemporaries, and tribute to his scientific honesty was paid

[1] *The Presbyterian.* Philadelphia and New York, Saturday, 12 January, 1839, 9: 2, whole no. 413, p. 8.

by no less a person than Richard Owen, the great English comparative anatomist. But American scientists of a later generation looked askance upon this "traveling salesman and publicity boy"; he was regarded as definitely not "quite. . . ." Furthermore, there was no precedent for such a discovery as he claimed to have made. For these reasons a great deal of ingenuity was spent in discrediting both Koch and his claims. No one made the slightest attempt to check Koch's claims on the spot, and no one exhibited the least interest in examining the artifacts which Koch claimed to have discovered, in spite of the fact that he took considerable pains to make their whereabouts quite clear.

The skeleton to which Koch refers was purchased in 1843 by the British Museum, where it now is. Up to the time of its discovery, and for long afterwards, it represented the most perfect specimen of *Mastodon giganteum* in existence. The human artifacts and other remains found with this creature, and those found a year later with another *Mastodon*, were sold to the Royal Museum of the University of Berlin.[2]

For reasons which reflect little credit upon those guilty of such name-calling Koch has in the present century been referred to as a "Munchausen" with too vivid an imagination. The fact is that any one reading Koch's own accounts in the light of the discoveries made within the last fifteen years in North and South America would be compelled to credit him either with supernatural powers or else with the intelligence to observe clearly and to describe carefully what he had found, for claims such as Koch's have since been made and independently confirmed down to the last detail in many parts of North and South America.

A complete account of Koch's important discoveries together with an analysis of them and his critics' criticism is being prepared for publication elsewhere. It is here only necessary to remark that the evidence presented by Koch was, and is, unequivocally clear, and indisputably renders his the earliest discovery and account of the association of human artifacts with fossil mammals in North America.

I am extremely grateful to Mr. C. Bernard Peterson, the able assistant librarian of the Philadelphia Academy of Natural Sciences, for bringing Koch's pamphlet of 1841 to my attention, an act which led to those further inquiries which, when published, will completely serve to vindicate Koch and his discoveries.

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[2] Albert Koch, "Description of the Missourium, or Missouri Leviathan; Together with its supposed habits, Indian Traditions concerning the location from whence it was exhumed; Also, Comparisons of the Whale, Crocodile, And Missourium, with the Leviathan, As described in the 41st chapter of the Book of Job." 1st Edition. St. Louis: Printed by Chas. Keemle, No. 22 Olive Street. 1841. (On the yellow cover of the pamphlet the date is printed "1840.") 8vo. 2nd Edition, Enlarged. Louisville, Ky. Prentice and Weissinger, Printers, 1841. 8vo. A. C. Koch, "Mastodon Remains, in the State of Missouri, together with Evidences of the Existence of Man contemporaneously with the Mastodon." *The Transactions of the Academy of Science of St. Louis.* St. Louis, 1857, vol. 1, pp. 61–64.

RETURN OF A MARKED SALMON FROM A DISTANT PLACE

SEARCH and inquiry[1] failed to reveal a single clear case of return of a salmon from a distant place in the sea to its home stream. Nor did the subsequent symposium on salmon migration[2] elicit such a case, but rather it emphasized the importance of marking salmon before they had left their rivers to determine where those from a certain river actually are to be found in the sea and of tagging them as found to test their return to the home stream.

Of 31,359 Atlantic salmon smolts, marked during descent of the Northeast Margaree River, Cape Breton, as smolts in 1938 by removal of the adipose fin, recaptures were reported of 581 of these in 1940 and 410 in 1941 in the waters of western Cape Breton and the neighboring mainland of Nova Scotia as far as Pictou and Guysborough. Dr. A. A. Blair, of the Newfoundland Fisheries Research Institute, has very kindly furnished details for a single one taken at Bonavista on the east coast of Newfoundland and tagged and released by him on June 17, 1940. It was taken again, on September 21, 1940, by an angler, Mr. M. R. Jackson, in the Northeast Margaree River above where it had been marked. The distance for this return through the sea is at least 550 miles, and Bonavista is alongside the Labrador current, very remote from any influence of the Margaree River that might aid the return. This was the only one of the marked salmon reported from Newfoundland waters and apart from the question of precise migration, the chances of its capture in either place were assuredly very small.

In agreement with the rarity of tagged, Margaree salmon kelts on the east coast of Newfoundland,[3] this was the only marked fish among the 65 salmon larger than grilse and a larger number of grilse tagged at Bonavista (grilse are very rare among the Margaree salmon). This indicates that it was far away from the bulk of the marked fish, which were evidently congregated (458 taken in 1940 and 266 in 1941) along the 16-mile stretch of coast, largely north of the river mouth, where is the definite zone of influence of the Margaree River.

We can not know what course this fish took in its

[1] A. G. Huntsman, SCIENCE, 85: 313–314, 1937.
[2] Public. No. 8, Amer. Assoc. Adv. Sc.: 1–106, 1939.
[3] A. G. Huntsman, *Jour. Fisher. Res. Bd. Can.*, 4: 96–135, 1938.