interviews with persons who had heard and seen the meteor. He also investigated the hole made by the small stone immediately after the fall and assisted the writer in examining and measuring the hole made by the large stone. Mr. Wright, the editor of the Paragould *Daily Press,* cooperated fully, especially in securing information to supplement that obtained by the writer at the time of his visit.

The last fall of meteorites in the United States, so far as is known to us, was at Tilden, Illinois, on July 13, 1927. The November 11, 1927, issue of SCIENCE carried our announcement of the Tilden meteor and meteorites.

Note added July 3, 1930:

The report of the fall of a big meteorite near Bezerros, Brazil, has not been verified. Among definitely authentic meteorites, iron or stone, the big Paragould is the largest for which the date of fall is known.

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OCCURRENCE OF MAMMOTH AND GIANT BISON IN GLACIAL MORAINES IN THE HIGH MOUNTAINS OF COLORADO

IN June, 1929, the writer, accompanied by Professor J. Hansen, of Western State College, Gunnison, Colorado, and Mr. L. Q. Coffin, examined a reported fossil deposit which had been cut into during the course of the construction of a large ditch in the mountains between Gunnison and Montrose, Colorado. This ditch was built along the west side of the mountain valley of the Little Cimarron, and the deposits are found at an elevation of about eight thousand feet.

The principal formation here is Graneros beds of the Colorado group of the Upper Cretaceous, and they here contain some beautifully preserved fossil fish, with iridescent colors. So far as the writer is aware, these have never been collected and studied from this area.

Pleistocene deposits of coarse gravel, silt and boulders of all sizes lap down over these beds, and most of this appears to be old glacial moraines. In the limited time available for examination of these beds, so far as observed the spots where the fossils were found appeared to be clearly in beds of this origin and near their lower termination.

At Montrose, Colorado, the writer saw some of these bones which had been removed from the deposit. Portions of teeth and a tusk were preserved, not distinguishable from the mammoth type commonly referred to *E. columbi.* With this material was a molar tooth of a very large fossil bison, of the size found in the immense *B. latifrons* and similar species. The writer has had occasion the past year to study several of our extinct bison types, and it is evident that much individual variation exists in many characters, so that, at least until critical studies of all known material has been made, it is unsafe to attempt to identify these species by a single molar tooth.

While scattered, these fossils had been in a good state of preservation when found, and were well mineralized; but the rough handling they had received, with nothing done to preserve them, had naturally resulted in a good deal of damage being done to them.

Mr. L. G. Coffin, the father of the young man who accompanied the writer, was constructing the ditch and discovered the fossil bones. When in Denver recently he assured the writer that the large bison horns he found there were longer than, but not quite so robust as, an immense set of *Bison latifrons* horns now in the Colorado Museum of Natural History, Denver, which were found in the early Pleistocene of Nebraska. These horns are of almost the known limit in size, though not so long as in *Bison regius.* While the writer did not see the specimen, Mr. Coffin is known to be a man of reliability and the finding of one of these immense bisons, agreeing in size with the above mentioned molar, in association with *Elephas cf. columbi,* conforms with their known occurrence, save for being found at such a high elevation and in local glacial deposits.

So far as the writer is aware this is the first known occurrence of such fossils under these conditions in these mountains, and it brings up some interesting problems which should be studied.

To reach the spot where these fossils were found, one turns off at Cerro, about seventeen miles east of Montrose, on the main highway to Gunnison, and drives twelve miles up from Cerro to the Tripler camp. The Pleistocene fossils were found about one fourth to one half mile above this camp, in the ditch cut.

The Cretaceous fish mentioned are also found near here, in a slide near the nearby Cold Hill camp, in a dark sandy shale and in sandstone.

These localities seem well worth noting for record for the benefit of any specialists who may be interested and have the opportunity to work at this location.

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ZOOPHARMACOLOGY VERSUS PHYTOPHARMACOLOGY

I HAVE read with great satisfaction the appreciation of my contributions to phytopharmacology expressed by Professor Edwin H. Shaw, Jr., published in the first May number of SCIENCE, page 460; and I was especially interested in the writer's suggestion that

the idea of an antagonism between animals and plants could be extended to the subject of diseases and their treatment. Quoting from Dr. Shaw's communication, we read:

> When we consider the infestations of an animal host with animal parasites, we have a markedly different picture. The host and parasite live together without any marked protective or offensive action on the part of either. When death occurs in these conditions, it is a result of the gradual destructive action of the parasite on some particular tissue of the host. The tapeworm, the liver fluke, the malarial plasmodium, the trypanosome, the filaria worm, the spirochete and the intestinal ameba may be taken as examples of this type of infesting organism. These organisms do not produce any great amount of toxins, and do not stimulate the host to form any great amount of protective substance.

I am writing the present note in order to corroborate with actual experimental data the conclusions he arrived at as a result of his lucid and logical reasoning. During the past year I have been investigating by my special phytopharmacological methods specimens of blood from two kinds of parasitic diseases. In one series of experiments, I have been examining the toxicity for plant protoplasm of blood from cases of malaria. Some of these specimens were obtained in the United States; other specimens, more particularly those from cases of virulent fever, were obtained through the courtesy of Professor R. N. Chopra, of the School of Tropical Medicine, Calcutta. The results of these experiments indicate that, as far as the phytopharmacological tests are concerned, malarial blood contains little or no toxin of any kind. Another series of experiments is at present being carried on by me in collaboration with Dr. O. R. McCoy, of the department of helminthology, Johns Hopkins University School of Hygiene and Public Health, on bloods obtained from dogs infested by the hookworm. These animals exhibit the picture of extreme anemia, and it was deemed desirable to inquire whether this anemia was of a pernicious type. Although these experiments are still in progress, the data already in hand indicate that the blood serum of dogs with hookworm shows no toxicity and behaves exactly like blood from human beings suffering from severe secondary anemias. These lines of investigation give a striking proof of the correctness of Dr. Shaw's reasoning in regard to infestations of an animal host with animal parasites.

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THE FIRST ENGLISH POPULARIZER OF SCIENCE

PERHAPS other readers of SCIENCE might be as interested in examining Oliver Goldsmith's "A History of the Earth and Animated Nature" as was the writer, who recently, through Mr. Carter Bishop, of the English department of West Virginia University, was lent an old edition of this work. This particular edition, in two volumes of more than 1,000 large pages, was published in 1853 by A. Fullerton and Company. In this edition, more than fifty years later than the first edition, the editors claim to have corrected many errors of the original work.

In the publishers' advertisement at the beginning of the work they say that Goldsmith is the "first English writer who, by the inimitable graces of his style and manner, threw a charm over the subject which was new to the English reader, and the effect of which, in rendering the science of Natural History popular, has been great and extensive."

Besides the "inimitable graces of his style" the book is illustrated with numerous colored plates, some of which are really good. The classification, though of course antiquated, is in some cases not so much out of date as might be expected of a work written 150 years ago—Goldsmith died in 1774.

In the chapter on "The Crocodile and its Affinities" he mentions the four chief types of modern texts: the crocodile, the alligator, the cayman and the gavial. He tells many interesting things about the various members of the group, some of which details are undoubtedly true, some of which are doubtfully true and some of which—for example, the "open-bellied crocodile" that carries its young in an abdominal pouch—are obviously fiction.

Altogether the book is most interesting, if *not* to be recommended for general consumption by the non-scientific public.

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QUOTATIONS

MEDICAL PATENTS

A REPORT has recently been issued by a Committee of the Association of British Chemical Manufacturers (London, November, 1929) suggesting alterations to the Patent Laws in respect of chemical inventions. Many of these suggestions will be welcomed by chemical workers as safeguarding their interests and those of the general public, and as simplifying procedure.

A large proportion of the report, however, is devoted to the question of "medical patents," *i.e.*, the patenting of chemical substances intended for the alleviation and cure of disease, and the committee make