

## PALEONTOLOGY

# Cat-fight 50,000,000 Years Ago Left Sabre-Tooth Scar

**A** CAT-FIGHT occupied the attention of the American Philosophical Society at its meeting in Philadelphia.

The fight came off 50,000,000 years ago, more or less, but its outcome still has plenty of interest about it.

Scientists crowded round, when Drs. W. B. Scott and G. L. Jepsen of Princeton University exhibited the skull of a cat-like animal with a gaping but partly healed wound in it, that had undoubtedly been inflicted by one of the terrible weapons of a giant sabre-tooth cat that roamed the West when the West was really wild. Dr. Scott said:

"This has to do with the skull of the cat-like *Nimravus*, which was discovered by the Museum of the State School of Mines at Rapid City, South Dakota, and was sent in for inclusion in this report.

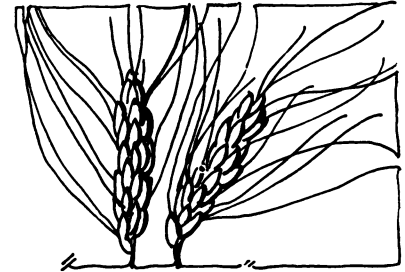
"The skull, which is that of a rather small animal, considerably smaller than a puma but somewhat larger than a lynx, shows a terrible wound through the forehead. This wound was inflicted in the lifetime of the animal, as is shown by the deposits of secondary bone around the edges of the gap. No doubt externally the wound was completely healed before death.

"The great interest of this remarkable specimen is the confirmation it gives to the interpretation of the sabre-toothed cats which had been reached by most students of the problem, as to the manner in which the great sabres could have been used. The whole structure of the skull shows that the lower jaw could be dropped to an extraordinary degree and the mouth opened so widely as to admit the points of the great sabres.

"The sabre-toothed cat would then strike with the head a stabbing blow, in just the same way that a venomous snake strikes. That is the only possible explanation of the manner in which the great tusks were used; and yet it is so completely unlike anything among existing mammals that many have received it with skepticism.

"The wound in the skull in question was clearly made by the sabre of the great contemporary sabre-toothed cat, *Eusmilus*, and was obviously made as an incised or punctured wound, not by a sharp point drawn across the skull. The sabres of *Eusmilus* fit this wound, and thus afford a most interesting confirmation of a theoretical deduction."

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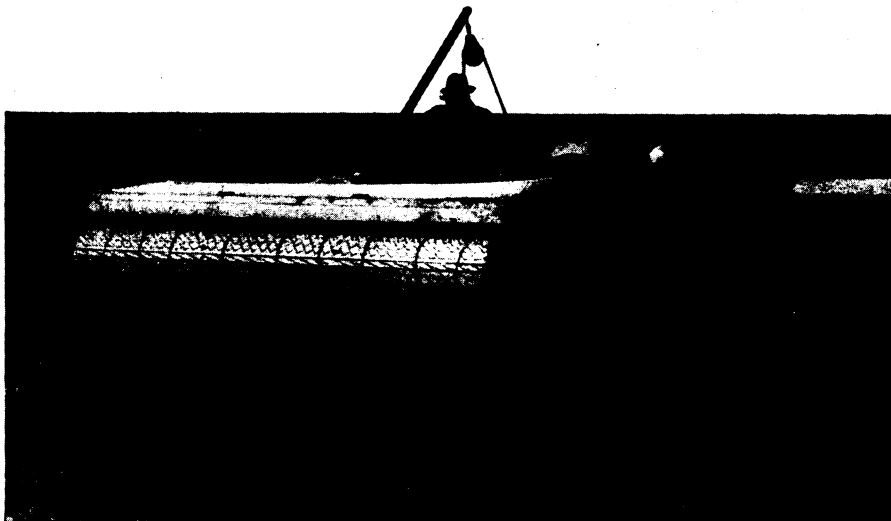
New Harvests

**G**RASS is the only thing that will really conquer the dust storms of the West, that have been appearing as an ominous portent even in the skies of the East. But the old native-grass sod has been destroyed by scores of thousands of acres, plowed out to make room for the wheat farms that met disaster in the drought. It will replace itself only slowly, and usually after one or more generations of weeds. What to do about it?

Botanists and agronomists of the U. S. Department of Agriculture have decided that human aid can re-sod the areas that need this protection much more rapidly than the slow processes of nature would do it, if left to themselves. Recently Burton F. Kiltz of the Soil Conservation Service, whose regular station is at Salina, Kansas, right out in the middle of the problem, told a Washington audience of plant scientists what has already been accomplished, and what is in immediate prospect.

One of the toughest jobs the soil-binding army has to face is the getting of an adequate supply of seed of the right kind of grasses. It seems to be fairly well agreed that the best species in sight are the ones that made up the old original carpet of the prairies and plains. In a recent 55-day drought and hot spell, test plantings of four cultivated grasses all died, while five comparison plots of native species came through all right. That would seem to settle any reasonable question.

There are still areas where these grasses grow undisturbed and bear their plummy harvests of seed. Harvesting this seed has proved no easy task. The machinery used for cultivated crops could be adapted to gathering seeds of



REAPING A HARVEST NO MAN HAD SOWN

Among the devices used to obtain seed of native grasses for the re-sodding of lands in the West plowed into wheatfields during the tragic mistaken years of "normalcy" before the Depression and the Drought, was this strange device mounted on the back of an old Dodge truck, that had to be driven "wrong-end-to" while in operation. It looks weird—but it got the seed.

some of the species, though the yields, measured only in pounds per acre instead of in the accustomed bushels, look a bit small at first. Some of the harvest had to be gathered laboriously with sickles, or even with shears. But it must be remembered that these are very precious seed.

In all, the Soil Conservation Service harvested about 700,000 pounds of the seeds of native Western grasses during the last growing season. Some of this goes to immediate re-sodding, a part to propagation plots, where more seed will be harvested next fall—it is hoped at lower cost.

One species, and one of the most valuable of the grasses at that, does not yield a satisfactory harvest of seed. Buffalo grass, the joy of old-time Western cattlemen, gave up only about ten pounds of seed per acre on good test areas. However, buffalo grass is fairly easy to propagate in another way. It sends out runners that root at the joints, more or less like strawberry plants. So the re-sodders simply dig up truckloads of the sod, transport it to the places where it is to be planted, and tramp fist-sized chunks of it into the loose soil. There it takes root, and the runners do the rest. Presently, instead of a field of deadly drifting dust, you have a stretch of well-stabilized sod, where cattle can again make a living.

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#### GEOGRAPHY

### Franklin's Descendant Seeks His Gulf Stream Map

A DESCENDANT of Benjamin Franklin appeared recently before a leading scientific society which his illustrious ancestor founded in 1727, to enlist aid in seeking a scientific chart which the same ancestor had caused to be made in 1769, when Franklin was a kind of predecessor of the Hon. James Farley.

The society is the American Philosophical Society. The descendant is Franklin Bache, well-known Philadelphian. The chart was of the Gulf Stream. The job Franklin held when he caused it to be made was Deputy Postmaster of His Britannic Majesty's Colonies in America—which Franklin was to forfeit half a dozen years later, when he stood in Independence Hall, only a few steps from the spot where his descendant stood, and told his fellow-signers of the Declaration of Independence, "Now we must all hang together, or we shall all hang separately!"

When Benjamin Franklin had that lost chart made, he was doing what his successors in high executive office might well profit by imitating: he was applying science to the tasks of his department, to make it more efficient.

Mails from England were somewhat slow in reaching America in the 1760's—sometimes two weeks slower than American merchant ships making the same crossing. Citizens complained of poor postoffice service, just as they do today. Franklin learned from a Nantucket whaling skipper named Folger that the obstinate British ships' captains bucked right into the Gulf Stream and

so lost much time, while the "slick" Yankee masters found a way around the troublesome current.

Thereupon Postmaster Franklin had an engraving made, of a chart showing where the Gulf Stream flowed, and indicating how it might be avoided or taken advantage of, according to the direction your ship was sailing. Presumably a large number of charts were printed from this plate, yet none of the great map collections can show a copy, Mr. Bache said. He appealed to his fellow members for any assistance they might be able to give him in his search.

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## ● First Glances at New Books

#### Natural History

THE TEACHING OF NATURE STUDY AND THE BIOLOGICAL SCIENCES—Harrington Wells—*Christopher*, 333 p., \$4. This is a book which every teacher of elementary biology will want. Besides giving a great deal of condensed information on both subject matter and teaching method, it tells where to turn for further information and where to send for laboratory materials and supplementary literature. It should save the teacher hours of puzzlement (all too frequently ending in frustration, at that) and should result in the solid enrichment of offerings to the class.

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#### Chemistry

A SYSTEMATIC HANDBOOK OF VOLUMETRIC ANALYSIS—Francis Sutton, rev. by A. D. Mitchell—*Blakiston's*, 631 p., \$10. The twelfth edition of a well-known British book on quantitative analysis. Among the new sections are those on gas analysis and potentiometric titration, but microchemical titration is not presented because of lack of space.

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#### Public Health

OBSERVATIONS ON INDIAN HEALTH PROBLEMS AND FACILITIES—Joseph W. Mountin and J. G. Townsend—*Govt. Print. Off.*, 47 p., 10c. Public Health Bull. No. 223. A vivid, if somewhat depressing, picture of health and living conditions among the one-time healthy native race of this continent is given in this report of the federal health service.

Persons interested in social problems, as well as those whose interest is primarily in public health or in Indians, will want to read the report.

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#### Microscopy

THE STUDENT'S MANUAL OF MICROSCOPIC TECHNIQUE—J. Carroll Tobias—*Amer. Photographic Pub. Co.*, 210 p., \$2.50. This book fills a place that has been waiting for it a long time. Most works on its subject are for the seasoned research worker, or at least for the advanced student. Something not quite so elaborate and exhaustive was needed for those nearer the beginnings of their careers in the microscope-using sciences.

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#### Botany

BOOK OF CACTI (ILLUSTRATED) FOR THE AMATEUR COLLECTOR: Vol. 1.—*Lawson Cactus Garden, San Antonio*, 545 varieties listed, \$1. Each variety listed is matched on the opposing page by a good, clear half-tone illustration. This publication should be useful to cactus fanciers as well as to dealers in these increasingly popular plants.

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#### Diet

THE BALANCED DIET—Logan Clendening—*Appleton-Century*, 207 p., \$1.50. Sane and sensible advice on diet in health and disease in which scientific facts are made palatable by the spice of Dr. Clendening's style.

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