



#### 550 B.C. ADVERTISING GAVE ATHENS POTTERY BOOM

Five of the fifty Greek vases in the Albert Gallatin Collection loaned for exhibition to the University Museum. They represent the fifth and sixth centuries B.C., when Athenians advertised their pottery art and "got results."

lead and other gasoline additions. The new experimental army aviation gasoline was composed half of iso-octane and half of good quality ordinary aviation with ethyl addition.

The new superior gasolines will cost more per gallon than present aviation

fuels but since they will contain more power per pound, they promise to be actually more economical. Dr. Edgar urged the consideration of fuel cost per ton-mile of payload carried rather than the cost per gallon.

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#### PHYSICS

## Universe Infinite In Particles; Finite In Space

**T**HE universe contains an infinite number of particles but its volume is finite. This is the paradoxical answer given by Prof. E. A. Milne of Oxford to a Science Service representative upon the occasion of his receiving the Royal Astronomical Society gold medal.

"Is the universe infinite?" Prof. Milne was asked.

"It is necessary to distinguish between whether the number of particles in the universe is infinite and whether the amount of space used by one observer is infinite," he answered. "I believe the right answer is that most probably the universe has an infinite number of particles in a finite space."

Imagine an ideal telescope which is infinitely powerful, Prof. Milne suggested. Then one would see that the more distant the nebulae the nearer they would be together. They would be closer and closer, fainter and fainter and ultimately they would shade into a continuous background.

"What would this be like?"

"Picture yourself inside a cloud which was infinitely dense at its circumference," said Prof. Milne.

Prof. Milne is recognized for his mathematical explanation of the expanding universe in terms of ordinary three-dimensional or Euclidean space.

"I don't believe curved space is anything more than a possible method of expression," Prof. Milne said. "I think that my calculations using Euclidean space provide a greatly simplified picture of the universe."

He did not oppose Einstein's work, however, and he explained that Einstein's early work is fundamental to his theory.

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It was supposed that garden peas lose sweetness after picking because the sugar turned to starch, but tests indicate that the sugar is apparently used in respiration.

#### ARCHAEOLOGY

## Advertising Stunts Were Practised By Greeks, Too

**T**HE ancient Greeks, too, had clever advertising stunts. In the sixth century B.C. olive oil was given as prizes to foreign athletes competing in the Panathenaic games—and the Athenians packaged the oil prizes in beautiful vases.

As a result there came from Egypt, Africa, Russia, Spain and Gaul, a flood of orders for Athenian vases and Athens obtained a virtual monopoly of the world's pottery trade.

This close attention to making the package attractive, which sold more of the package-vases, is the reverse of what modern advertisers do when they improve the package to sell more of the contents.

Jotham Johnson, archaeologist of the University Museum in Philadelphia, Pa., told of the advertising techniques of the ancient Greeks during a loan exhibition of one of the world's best private collections of the Athenian vases.

In addition to vases, Athenian potters made jars, flasks, pitchers, drinking cups and other utensils, ornamental and practical. So complete was the Athenian monopoly that the best artists from other countries were imported to design the products. Connoisseurs today judge that Athenian vases reached their highest beauty in the fifth century B.C.

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#### ENTOMOLOGY

## Bright-Colored Butterflies Avoided by Birds

**B**IRDS really do avoid butterflies whose bright "warning" coloration advertises their inedibility, Prof. G. D. Hale Carpenter of Oxford University declares (*Nature, Feb. 2*).

Prof. Carpenter received the information on which he bases his communication from a naturalist in Africa, T. H. E. Jackson, of Kitale, Kenya Colony. On an expedition into Uganda, Mr. Jackson noticed birds feeding on butterflies that crowded among the flowers of a blossoming tree. Under the tree he found many wings of the insects, broken off by the birds before they swallowed their prey, some of them with the marks of beaks imprinted plainly on them. By comparing the numbers of these witnesses of insect tragedy with the relative abundance of the various species he