

ASTRONOMY-AAAS

Navigation Simplified

Now possible to determine position of ship or plane in five minutes by sighting two stars at same height above horizon.

► A NEW method of determining the position of a ship at sea or a plane in the air that requires only five minutes of simple computation has now received approval by navigators and astronomers.

Based on spotting two bright stars when they are exactly the same height above the horizon, at sea the marine sextant was found adequate and in the air the bubble octant was sufficient. Thus no novel instrument is needed, O. C. Collins of the University of Nebraska stated.

Tests at sea and in the air show that navigators can obtain the latitude and longitude of a ship much more quickly and with far less effort than by methods now in use, Mr. Collins said, yet the result will be fully as accurate.

During the last 18 months the Army, the Navy, the Merchant Marine and American Overseas Airlines have co-operated in testing the new method and found it satisfactory, the University of Nebraska astronomer stated. It can be used 90% of the time that celestial observations can be made.

Gas on Planets?

► IF LIFE on some planets is impossible because of the presence of poisonous gas, astronomers will soon know about it. A search for carbon monoxide, the "garage gas" responsible for many deaths, in the atmosphere of Mars, Venus, Jupiter and other planets is being conducted by Dr. G. P. Kuiper at the McDonald Observatory of the University of Texas.

Only one of the satellites of Jupiter may have had a atmosphere at one time, Dr. Kuiper stated. Its reddish color is in striking contrast to the other three satellites. To date no detectable atmosphere has been found on the distant planet Pluto or on Neptune's satellite, Triton.

Lots of Stars Needed

► NUMEROUS stars must be visible in the background during a total

eclipse of the sun if we are to determine just how much the star positions undergo Einstein shifts at eclipse time, Dr. G. Van Biesbroeck of Yerkes Observatory stated.

The stars were not close enough to the sun during last spring's eclipse for the shift to be measured accurately. Not until 1955, when a five-minute eclipse will be visible in the Philippines, will there be a new and better opportunity to test the theory of relativity in this manner.

Science News Letter, January 3, 1948

ARCHAEOLOGY

Toys on Wheels Made in Mexico Long Before Carts

► TOYS on wheels were made by the Indians of Mexico many centuries before Cortez reached the New World. Wheeled toys made in pre-Conquest times, long before carts on wheels were introduced from Europe, have been found in the Valley of Mexico, in central and north-

ern Vera Cruz, and possibly in Oaxaca. Not just a fad that quickly passed, wheeled toys were made over a period of at least several hundred years.

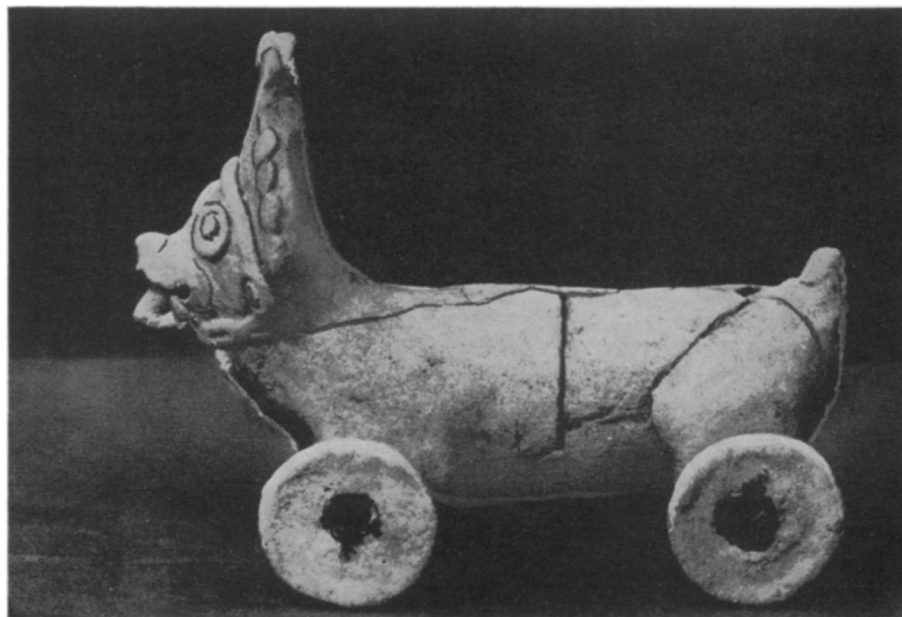
The broken body of a figurine recently found in the town of Panuco, Vera Cruz, was discovered with the wheels in position, Dr. Gordon F. Ekholm of the American Museum of Natural History revealed. The axle, probably of wood or some other perishable material, was missing. Spots of asphalt near the central holes of the wheels indicate how the axle was held in place.

Several other toys have been found with tubular holes for the axle and perforated disks nearby. The holes in a tiny model found in Oaxaca are definitely worn smooth by turning axles.

These miniature vehicles were not copied from actual carts used in transport, Dr. Ekholm points out. Wheeled vehicles were not actually used as a means of transport anywhere in the New World in pre-Conquest time. Nor is it likely they were introduced from Europe at some earlier period.

Toys on wheels probably were a pure discovery or invention that was not put to practical use. A spindle with its whorl may have given someone the idea of the use of a wheel on a vehicle and he may simply have made a workable model of clay in the form of an animal. The crude workmanship of the wheels eliminates the possibility of these disks having been used in spinning.

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ANCIENT TOY—This toy with wheels was discovered in Vera Cruz. Asphalt near the central holes of the wheels indicates how the axles were held in place.