

ing extensive explorations of Indian mounds and village sites near Macon for more than a year. The work was inaugurated as a Smithsonian C. W. A. project, and is now being continued by the State and local F. E. R. A. in cooperation with the Society for Georgia Archaeology.

Air views show the parallel rows of furrows that crossed the ancient field, as plain as the furrows in a modern cornfield near by. The ancient and modern fields look strikingly similar. But this is a superficial resemblance, says Dr. Kelly, for the straight rows today are achieved by the plow, something unknown to the prehistoric farmers of America.

The so-called Indian way of planting corn, taught to colonists of New England by friendly Indians, was to heap up little hills of earth at intervals all over a field. Each hill was planted with a few kernels, and manured, hoed, and tended as a separate farm unit.

The cornfield discovery, explains Dr. Kelly, shows that prehistoric agriculturists of Georgia hoed their corn, pulling up the soil around the plants in close-set hillocks arranged in furrows. So regular was the pattern of hillocks that only a slight curving contour shows when the field is seen from a height or distance.

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no alteration in the Heaviside layer could account for the large size of the time discrepancies. In considering these aspects it was found that the average length of time required for trans-Atlantic transmission is approximately .04 second.

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#### ENGINEERING

### Use Colored Concrete in Fight Against Accidents

**R**OADS the hue of the gay, orange-colored marigold flowers are the latest idea tried by British highway engineers in their intensive campaign to reduce the toll of accidents.

Short experimental stretches of this marigold road have already been laid down in several parts of the country, and Leslie Hore-Belisha, Britain's energetic Minister of Transport, has approved further trials on a large scale.

The chief advantage claimed for this coloring is that it reduces sunlight glare during the day and dazzle at night, while it is also suggested that these colored roads will give pleasure to the traveler's eye.

This experiment has already been tried out in the Channel Islands—Britain's small islands off the coast of France. Here the marigold roads were bordered by a white curb, an effective combination which was found to prevent glare, define the road in all lights and to allow cyclists and pedestrians to be easily picked out by the headlights.

Brown and green roads are also being tried, but the marigold shade seems to be favored, at least from the optical viewpoint.

A further advantage of the marigold road is that pedestrian crossings or "safety lanes" could then be marked out in different colored concrete and so lie flush with the road. This would be an improvement on the steel-stud system at present used in Britain for marking crossings.

It is believed that the problem of providing colored concrete that will last has been overcome, but this will not be known for certain until further time has elapsed.

Military and air force authorities are naturally watching these tests with interest for their bearing on the camouflage question. Concrete roads colored to tone with the surroundings would be far less visible from the air—an added protection for airdromes and military bases.

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#### GEODESY

## Moon Varies Distance Between Europe and U. S.

### 63-Foot Difference Found by Harvard Astronomer And New York Scientist By Study of Radio Signals

**T**IDES in the solid earth which alter the distance between the North American and European continents by as much as 63 feet have been discovered by Prof. Harlan T. Stetson, visiting research associate in astronomy at Harvard University, and Dr. A. L. Loomis, New York banker and scientist who operates as a serious hobby the Loomis Laboratory, Tuxedo Park, New York. These tides in the earth are believed to be caused by the moon through its gravitational pull much in the same manner as it causes ocean tides.

They were discovered by the two scientists when discrepancies in astronomically checked clocks in Europe and in North America increased and decreased regularly with changes in the moon's position.

According to Dr. Stetson and Dr. Loomis, discrepancies between European and American clocks, astronomically checked, indicate that the average difference between the two continents may be increased by as much as 32 feet when the moon is pulling them apart. When the moon pulls them together they may be closer to each other by the same distance.

In conducting their experiments, the two used United States time signals checked at Washington and broadcast

from the Naval Station at Arlington, Va., English time signals checked at Greenwich and broadcast from Rugby, and French time signals checked at Paris and broadcast from Bordeaux. At specified times, each station picks up the signals of the other two.

Discrepancies between time signals from Arlington and from Rugby were found to rise and fall with the moon's position. A very similar curve designated the differences between Arlington and Bordeaux signals. Between Rugby and Bordeaux, however, no such relationship was found, indicating that the phenomenon does not take place between England and France.

By a stretching of rocks, Dr. Stetson says, it is well within the realm of possibility for the two continents to move as much as 63 feet apart. Such a movement would be equivalent to stretching a rock a yard long less than .0004 inch, an amount well within the elastic limit even of solid granite.

It was at first thought that changes in the amount of time required for trans-Atlantic radio transmission might be the cause of the discrepancies, or that the moon might lift the Heaviside ionized layer which reflects radio waves and thus give them a longer distance to travel.

Upon checking this, it appeared that