

kind of light that causes spoilage.

Experiments upon rice bran and rice polish exposed to various kinds of light showed that they became rancid when kept under blue, purple, blue-green, yellow and various shades of red filters. But Mr. Coe found that a green filter, which approximates the chlorophyll coloring matter of the green leaf, and a red

filter that absorbs practically all the light, prevents or delays the oxidation and rancidity of the oily portion of the material tested.

A U. S. patent allowing use of the discovery by the public has been applied for by Mr. Coe, who predicts that the principle will prove of great economic value to producers of package foods.

Science News Letter, July 9, 1932

ARCHAEOLOGY

Hollow Log Coffins Found In Four-Story City of Dead

A FOUR-STORY CITY of the dead, recording a hitherto unsuspected settlement of high cultural level that flourished during the early middle ages near the site of the Baltic city of Memel, is described in the German scientific journal *Die Umschau* by Dr. Carl Engel of Königsberg, East Prussia.

In this cemetery the dead were buried at four levels. The oldest graves in the lowermost level, contained skeletons in coffins made of hollowed-out logs. The burials of the upper three levels showed that cremation had come into use among this early Germanic people, for they consisted of little wooden caskets containing only the charred remains of human bones, together with funeral gifts of bronze and iron ornaments and weapons. The whole series, from lowermost to upper, represents a stretch of over half a thousand years, from the sixth to the eleventh century A. D. Nothing even approaching this find in number of burials or in richness of funeral gifts has ever been found by archaeologists working in the East Prussian region.

The log-coffin burials of the lowermost layer give the best picture of the funeral customs. The men were buried with the full equipment of warriors; a sword before the breast, a dagger at the left side, and at the right the points of several spears or lances. There are no ornaments, except for one bronze brooch necessary to hold the garments.

There are plenty of ornaments in the women's graves, however. The skeletons are fairly loaded with necklaces, bracelets and rings. Two brooches were required for their garments.

As for their hair, they wore plenty of it, and apparently piled it high on top of their heads, to judge from the

length of the long bronze arrow-like hairpin found with every female burial. Many of the women's skeletons hold, on what were once their laps, well-made bone combs: long locks required long toilettes, then as now. The gentlemen of those days could prefer blondes or brunettes as it pleased them best; for hair of both colors has been found clinging to the long hairpins.

When the practice of cremation came in, there came with it the custom of burying the body of a goat or sheep under the little casket of burned bones, to supply the departed with provisions for his long journey. A few of these casket burials, apparently those of men of importance, were made on the bodies of horses. In one or two cases, the horse was buried upright, with the casket on its back, as though the dead chief's followers expected him to ride on "West."

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ASTRONOMY

Miss Ames' Death Interrupts Surveys of Universes

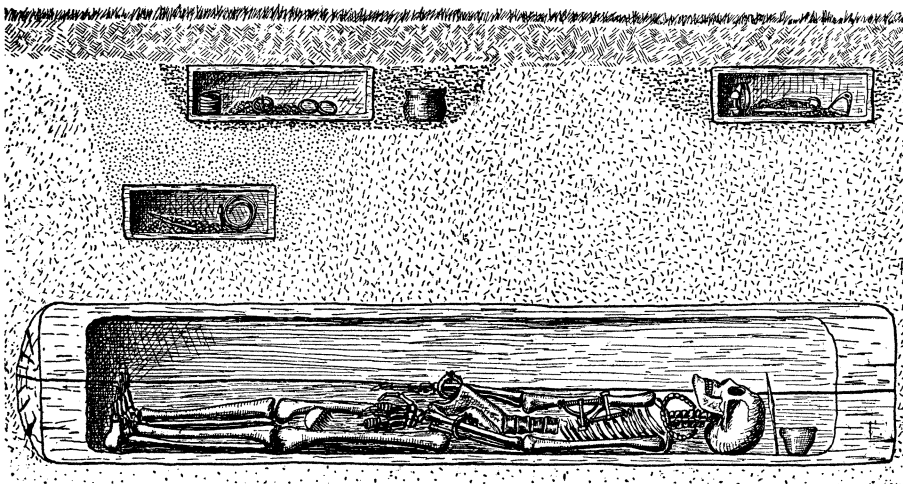
MISS ADELAIDE AMES, Harvard College Observatory astronomer who was drowned last week in a New Hampshire lake, had just finished the most complete and uniform study of distant universes of stars ever made. In this study of galaxies outside our own universe she collaborated with Dr. Harlow Shapley, director of the observatory, and the report is now in press.

Miss Ames and Dr. Shapley made an extensive catalog based on precise and uniform observations embracing every discovered galaxy or outside universe down to the thirteenth magnitude and the conclusions drawn are expected to have an important bearing on astronomical theories.

Miss Ames had been research assistant at the Harvard Observatory since 1923. She was a Vassar graduate, held a master's degree from Radcliffe, and she was secretary of the International Astronomical Union local committee preparing for the Harvard meeting to be held early in September. Miss Ames acted as delegate to the Leyden meeting of the union in 1928.

Miss Ames published in 1931 a catalog of nearly 2800 external galaxies in the constellations of Coma and Virgo. The survey is an extensive analysis of the number, magnitude, sizes, and classification of these outside universes. Miss Ames had also published with Dr. Shapley a series of notes on the Coma Virgo cloud of galaxies.

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THREE FLOORS OF DEAD CITY

Diagrammatic reconstruction of a part of the Memel valley cemetery, showing three of the four burial levels. In the log coffin in the lower level is the skeleton of a woman, loaded in costume jewelry. In the little caskets in the upper levels are the charred bones and ornaments of cremated bodies of the later days.