

have been said to belong to the second, third, or fourth centuries, from the writing and other small clues that catch an expert's eye.

Current gossip in Egypt says that the papyri were found in a Coptic graveyard, says Prof. Sanders. If true, this would suggest that the graveyard was used by a Coptic monastery. The leaves may have come from a single grave, buried perhaps with the last member who could read Greek. Prof. Sanders doubts that the finders of the manuscript could have opened a series of graves in a Coptic monastery without detection. It seems more likely that the papyri were found in one

grave, and the time when the book was buried is placed in the fourth century—since some parts seem as young as this.

A handwritten Bible of papyrus is not apt to have lasted in use more than a century, Prof. Sanders estimates. So, he figures that the very oldest portions, which happen to be the Numbers and Deuteronomy books, were written out at the end of the second century or in the early part of the third. This would be around 200 A.D. Handwritten as it was, a Bible in those days was assembled book by book, and the result was not the work of a single scribe or a single year.

*Science News Letter, October 12, 1935*

#### PUBLIC HEALTH

## Smallpox, Typhus, Relapsing Fevers Epidemic in Ethiopia

**D**EATH and disease are No. 1 enemies along the lengthening Italian-Ethiopian battle lines. Reports on disease conditions in Addis Ababa as communicated in consular reports to the U. S. Public Health Service read like the index to a medical book.

Epidemics of typhus fever, relapsing fever and smallpox are harassing the Ethiopian capital and surrounding country, according to the latest report. The number of cases or even of deaths in these three epidemics is unknown, as no statistics on sickness, deaths or births are collected. Vaccination against smallpox is not practiced.

Leprosy is very common in Ethiopia. So are venereal diseases, and syphilis is

reported to be more prevalent there than in any other country. It is said that 90 per cent. of the adult population is affected by some venereal disease. Malaria of course is always present. Tuberculosis, grippe, pneumonia, quinsy, asthma and dysentery are other diseases reported prevalent. Practically all the adults in the country have tape-worms.

Cholera and plague are not mentioned in the consular reports, and Ethiopia is out of the yellow fever and sleeping sickness regions. But as one health official put it, if these four diseases are not present in the country, they are about the only ones the Ethiopians do not have.

*Science News Letter, October 12, 1935*

#### CHEMISTRY

## Frozen Bread Stays Fresh For Week; Flavor Stays Good

**F**ROZEN bread is the newest idea in the baking industry, and the most promising.

Public demand for fresh bread has kept bakers continuously working on a hand-to-mouth schedule. Now, they are trying something that may keep their product a week.

To hunt for some good way of delaying staleness of bread, the American Association of Cereal Chemists tried effects of both heat and cold.

Stored hot, that is, up toward 150 de-

grees Fahrenheit, bread would become stale more slowly, but flavor and color were "discouraging."

At moderate temperatures, say 50 to 90 degrees, nothing surprising could be expected. Every one knows how bread grows stale in ordinary circumstances.

But effects of freezing surprised the experimenters. The bread became partially stale, according to technical tests of penetration. Yet the aroma and flavor were pronounced as good as, or even better than, in freshly baked bread. At a

recent meeting of New York cereal chemists, the assembled chemists were fed bread that had been kept a week below freezing and also bread baked the previous day and handled in ordinary fashion. The majority voted for the week-old product, for aroma and flavor.

If the tests, now being continued, prove satisfactory, the baking industry seems likely to win a considerable advantage. Shipment of bakery goods to more remote points and better adjustment of supply and demand, with less waste, are possible benefits.

Holland has already tried out this idea of freezing bread to solve a local problem. Bakers in the Netherlands are not permitted to work between eight at night and five in the morning, and fresh bread may not be transported before nine A. M. Bakers reported unhappily that business suffered because people could not get fresh bread for breakfast and for preparing lunches for school children and workers.

To meet this situation, a Rotterdam baking concern, operating chain stores, recently resorted to use of "dry ice" to keep bread, claiming that bread thus preserved for several days cannot be distinguished from bread fresh from the oven.

*Science News Letter, October 12, 1935*

#### PLANT PHYSIOLOGY

## Neon Lamps Are Replacing Incandescents in Forcing

**N**EON lamps, running on the same principle as the red-glowing American street signs, have proved far more satisfactory than the conventional incandescent lamps for use in forcing plants and flowers in the experimental greenhouses of the Agricultural College of Wageningen, The Netherlands. They are more economical, partly because they convert a far greater proportion of the electric current into light and waste less as heat, and partly also because their light is rich in the yellow and red wavelengths that are most stimulating to the action of chlorophyll in the green leaves.

Among the plants so far tested have been cucumbers, strawberries, begonias and a number of other flowers. In some of the experiments an extra supply of carbon dioxide gas was artificially administered.

*Science News Letter, October 12, 1935*

Poor handwriting goes with poor spelling, according to Dr. Alice E. Watson of Teachers College, who has surveyed spelling of thousands of high school students.