

of the underspin and the dynamics of the slice and the pull are as if they were not. There is no "science" in the book; but it is admirably human. C. G. K.

A History of the Teaching of Domestic Economy. Written for the Association of Teachers of Domestic Subjects in Great Britain by Ailsa Yoxall. Pp. 58. (London: Knapp, Drewett and Sons, Ltd., n.d.) Price 6d.

THIS little book represents the first attempt to place on record an account of the growth of the teaching of domestic economy in Great Britain. The movement appears to have been started in earnest about 1840, when some instruction in needlework began to be given in national schools for girls and infants. From this date to the present time the importance of instruction of this character has been recognised increasingly, until to-day the Association of Teachers in Domestic Subjects includes no fewer than thirteen important local branches, receives direct recognition by the Government, and elects one of its members to represent it on the Registration Council. The subject is now also given a more scientific character and includes a practical and theoretical study of every aspect of housewifery. The book deserves the attention of all who are interested in vocational education for girls.

LETTER TO THE EDITOR.

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Newton and the Spectrum.

IN NATURE of November 5, 1914, p. 263, I notice in the Astronomical Column a statement to the effect that, in connection with spectrum analysis, Wollaston (1802) was the first to employ the slit. I therefore venture to send a copy of the following passage, contributed by me to the 1913 Journal of the Leeds Astronomical Society, published last September:—

"Almost all writers, who quote Newton's classical experiment, overlook or ignore the fact that, recognising the impurity of the spectrum formed by admitting the sunlight through a round hole, Newton suggested the use of a linear aperture. Here is the passage from pp. 59-60 of the 4th edition of the *Opticks* (Book I., Prop. IV.):—

"Yet instead of the Circular Hole, 'tis better to substitute an oblong Hole shaped like a long Parallelogram with its Length parallel to the [refracting edge of the] Prism. For if this Hole be an Inch or two long, and but a tenth or a twentieth Part of an Inch broad, or narrower; the Light of the Image will be as simple as before, or simpler, and the Image will become much broader, and therefore more fit to have Experiments try'd in its Light than before."

"It is not quite clear whether Newton actually tried this narrow aperture. I think he did; and it is interesting to consider that, if he had sufficiently narrowed the slit, and observed the spectrum directly by the eye, instead of observing it upon a screen, he might have discovered the dark lines."

C. T. WHITMELL.

Invermay, Hyde Park, Leeds, November 9.

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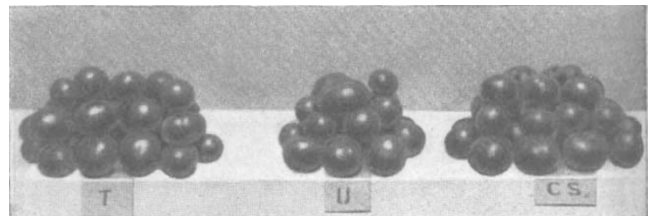
THE PARTIAL STERILISATION OF SOILS.

THE work to be described in this article arose, as so often happens, out of an accident in the laboratory. The writer was investigating the rate of oxidation of phosphorus, and during the progress of the work was called to take charge of an agricultural laboratory. Before finally disbanding the apparatus some observations were made on soils, and it was found that fertile soils absorbed oxygen more rapidly than non-fertile soils of the same character. Since the action was very considerably reduced in sterilised soils it was concluded that the process is largely due to



Untreated soil.

Partially sterilised soils (by toluene) (by heat).



Partially sterilised soil (by toluene).

Untreated soil.

Partially sterilised soil (by carbon disulphide).

FIG. 1.—Crops grown on untreated and in partially sterilised soils.

the activity of micro-organisms, and the connection between oxygen absorption and fertility was attributed to the large part played by micro-organisms in the production of plant food.

In doing the final confirmatory set of experiments the soils were only sterilised at 100° and not at 130°, in consequence of a mistake which caused some little annoyance at the time. An experiment was, however, carried out with this partially sterilised soil, and it led to the remarkable result that oxygen absorption is more rapid in such soil than in normal untreated soil. Other methods of partial sterilisation gave the same result. In view of the close connection between