proposition, which I have excepted. Please consider my application with you void. I thank you as sincerely for the intrest you have shown in me, I consider it an unusual privilage to have been allowed to apply for the assistantship you have." Accordingly, in a few months this man will presumably be teaching in the University of ——.

T. D. A. COCKERELL

MAY 27

THE PURPURIN METHOD OF LOCALIZING CALCIUM

DR. MYRA M. SAMPSON[1] is in error in attributing to me the introduction of the purpurin method of localizing calcium in animal and vegetable cells.

This method was first advanced by Grandis and Mainani in 1900 (*Arch. Ital. de Biol. 34,* 73) and a paper of theirs in the same Archives (1902, *38,* 143) gives the results of their use of the method in studying the distribution and deposition of calcium in epiphysial cartilage during bone formation.

In 1903, and later, I put this method to the test and found that while it is serviceable in localizing calcium in certain structures, *e.g.,* epiphysial cartilage, in which its salts may abound, it does not give decisive results in tissues or cellular elements in which it undoubtedly occurs, but much less abundantly, because the reagent is not sensitive to calcium when the latter is in greater dilution than 1 in 800, and it reacts the more slowly the more this degree of dilution is approached.

It is possible, however, that a mode of using the reagent, which will increase its sensitivity to calcium, may be found. A sensitive microchemical reagent for calcium in tissues and cells is a great desideratum and I would express the hope that Dr. Sampson will endeavor to find such a method and succeed in doing so.

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SCIENTIFIC BOOKS

The Chemistry of Wheat Flour. By DR. C. H. BAILEY, New York: The Chemical Catalog Company, Inc., 1925.

BREAD is our fundamental diet. The more we can learn about it the better will our judgment be respecting its use. A study of the milling processes now in vogue is extremely important for the chemist and more so for the biologist. This work is a rich treasure of knowledge in regard to the milling processes by means of which wheat is converted into flour. The author had a particularly good opportunity of collecting the information in this book because of his location in the midst of the greatest milling region in the world and because of his own studies in the milling industry.

In his introduction he calls attention to the general plan of the work. The properties of flour are to be considered in their relation, first, to the raw state from which they are manufactured, namely, wheat; second, to the process of milling and third, to its adaptability to the principal use to which flour is put for baking.

A short sketch of the history of baking is found in Chapter I. This is particularly interesting now because we learn from it when the present system of milling was introduced into this country. In 1870 the purifier was introduced into the mills in Minneapolis. In combination with the new system of grinding, that is, using steel breakers instead of millstones with the purifying apparatus, it made the mills of Minneapolis famous. Following the new system of milling, according to the author, the next major development was the introduction of chemical bleaching of the finished flour, a practice which came into effect in the first decade of the present century.

The author departs very materially from his fundamental principles in introducing the discussion of the bleaching of finished flour. This practice has nothing whatever to do with milling but has to do with the products of milling and the health of the consumer. It is not, therefore, a part of the fundamental principles on which the book is said to be written.

This view is also held by Samuel T. Ballard, a prominent miller of Louisville, a witness for the United States at the famous bleached flour trial, as shown from the following extract from his testimony:

> I consider that bleaching is no part of the milling process. Milling consists in making pure flour and separating all impurities from it. After the flour is made I do not consider treating it with chemicals any part of the milling art. Natural aging improves the quality of flour. Bleached flour deteriorates from the day it is made.

The general accomplishments, up to the present time, are stated by the author in the following language:

> In both of these particulars remarkable success has attended his efforts until to-day the modern flour mill is one of the most completely automatic establishments of

[1] SCIENCE, October 30, 1925, p. 400.