and less than *b*. The most useful table, one which precludes the necessity of rearrangement or recalculation, is one which includes all three of these possible values. For the most common orthorhombic minerals such a table has been arranged with the values of *a* in increasing order of magnitude, the corresponding values of *c* and the mineral names being placed in parallel columns. Thus each mineral appears three times, and the value of *a* accepted by convention is underlined. The corresponding value of *c* in the parallel column is a very useful check in tracing the unknown mineral.

If a monoclinic mineral is held with the greatest possible number of faces vertical, the most probable mistake in orientation is the interchange of *a* and *c* axes. Hence the table is made to include both *a* and *c* as possible values of *a*, *i. e.*, each mineral appearing twice in the table.

Would such tables, enlarged to include all minerals for which axial ratios have been determined, be useful accessories in the work of crystallographic mineral determination with the reflecting goniometer? Would tables further enlarged to include artificial crystals be of use to the chemical crystallographer?

Before undertaking such a task one wishes to know if it is worth while, and for this reason the questions are presented. Suggestions, and the utmost freedom of criticism by teachers of crystallography, are invited.

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HOUSE AIR

TO THE EDITOR OF SCIENCE: I had occasion recently to consult the issue of SCIENCE for September 29, 1911, and read for the first time the letter on "House Air" from Professor J. Y. Bergen, of Cambridge.

He makes this statement regarding the ventilation obtained from a hot air register:

> The ventilation . . . is much better than can be obtained in summer by opening a single window to its full height.

It is doubtless known to him and should be more widely known that it is better to pull the window down a couple of inches from the top and up from the bottom when ventilation is required than to open either half only. The truth of this statement can easily be tested by holding a lighted candle at the window openings.

G. L. MANNING
ROBERT COLLEGE,
January 23, 1912

QUOTATIONS

MOST RECENT INVESTIGATIONS ON THE DETERMINATION, PRESERVATIVE ACTION AND ADMISSIBILITY OF THE USE OF BENZOIC ACID[1]

PART II[2]

I NOW come to the most important part of my work—a critical summary of the three detailed investigations on the effect of benzoic acid and of benzoates on man which have been carried out during the last four years and which now furnish us that broad basis, which I have always desired, necessary for the formation of an intelligent opinion. First, there are two great works from the American Department of Agriculture; one carried out by H. W. Wiley,[3] in 1908, the other by a commission, under the chairmanship of the distinguished chemist, Ira Remsen, consisting of the three well-known American scientists, Professor Russell H. Chittenden, of Yale University; Professor John H. Long, of Northwestern University, and Professor Christian A. Herter, of Columbia University, New York. It seems strange that a great government should publish two books, one right after the other, dealing with the same subject-matter; and we seek in vain, in the second large volume of 761 pages, for a word of explanation of this surprising fact. Wiley's work is simply ig-

[1] Translated from the *Chemiker-Zeitung*, Cöthen, November 28, 1911, pp. 1314–17.

[2] Part I. (*Chem. Ztg.*, 1911, pp. 1297–99) is a summary of the articles dealing with the isolation, qualitative and quantitative determination, natural occurrence in plants, preservative action, use and toxic effects of benzoic acid.

[3] *J. Soc. Chem. Ind.*, 28, 67 (1909).