

corroborating the results of Fittig and Woringer.<sup>1</sup> Bredt states<sup>2</sup> that he has found only two molecules of water.

Since Bredt's method of crystallizing the salt was somewhat different from ours, we have repeated his work very carefully, allowing a saturated solution of the salt to evaporate very slowly, either in a vacuum or from a flask on a gently boiling water bath. Under these conditions the salt crystallizes on the bottom and sides of the vessel under the surface of the liquid and an analysis gives exactly two molecules of water as Bredt states. If, however, the solution be rapidly evaporated in an open dish on a water bath, the salt crystallizes on the surface and an analysis gives approximately three molecules, although the results vary somewhat, and a considerable part of the water (between one and two molecules) is quickly lost on exposure to the air.

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### NEW BOOKS.

**Introduction to the Rarer Elements.** By PHILIP F. BROWNING. Yale University.

Third edition, thoroughly revised. John Wiley & Sons, New York; Chapman & Hall, London. 1912. Pp. xii + 232. Price, \$1.50.

The present edition of this valuable book represents a considerable improvement over former editions. While the plan of the previous edition is retained, the chapter on the technical applications of the rarer elements has been enlarged and the chapter on the qualitative separation has been greatly expanded and improved. The work on the rare earths has been brought down to date and diagrammatic schemes for their separation are included. New features include a table of spectroscopic lines, plates illustrating typical absorption spectra, and a very concise tabular index. This edition of the book should prove of even greater value than its predecessors to students of the rarer elements.

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<sup>1</sup> *Ann.*, **227**, 6.

<sup>2</sup> *J. prakt. Chem.*, **83**, 395; **87**, 20.