

aberrations introduced by the adoption of the cover-glass.

It appears to have been customary in those early days for microscopists to select small fragments of thin glass obtained from large bubbles blown to bursting, and to use the suitable pieces thus obtained for cover-glasses. The helpful warning then given to the members not to use too much pressure in placing the cover-glass over the specimen had an obvious meaning. A few of these early slides are still preserved in the Society's historical collection.

The production in 1840 by Messrs. Chance Brothers of what was then described as thin and very thin flatted sheets was a valued contribution to the study and advancement of scientific microscopy in which Great Britain then led, and continues still to lead, the world. Microscopists everywhere still regard with warm congratulation the long and honourable record of pioneering achievement of this distinguished firm in the production of glass for optical and other scientific purposes.

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"A School Chemistry"

As the author of "An Introduction to Chemistry", I wish to protest against the review of this book which appeared in NATURE of March 22. The reviewer has devoted so much space to criticisms of controversial or trivial matters that he has failed to emphasize the special features of the book. The general character of several of his remarks can be judged from the following selection, to which I have added some comments.

(1) "... phosphorus was discovered by Brand, not Brandt, probably in 1674 not 1669." The implication in the first part of the statement is incorrect; Brand, not Brandt, is given in the text. The reviewer may be correct about the date, but a letter from Brand to Leibniz (G. H. Peters, *Arch. Geschichte Naturw.*, 4, 206 (1912); 7, 92 (1916)) indicates the date 1669, and this appears to have been accepted by Mellor, "Thorpe's Dictionary" and the "Encyclopædia Britannica".

(2) "The statement that argon was first called 'aeron' (p. 118) is new to the reviewer, but may be correct." The suggestion in this statement is ungenerous. The author's remark about aeron is substantiated by a letter Rayleigh wrote to Lady Frances Balfour in 1894 (actual quotation, pp. 212-13, "Crucibles", by B. Jaffe).

(3) "The style is generally good, but it is surprising to find on p. 482 the direction to 'tip' a solid into a vessel." The use of the word 'tip' is in accordance with the definition given in the Oxford Dictionary, and the author has been informed by two well-known examiners that they see no reason for criticism on technical grounds.

(4) "Black's date is 1755 not 1775." The correct date of 1755 is given higher up on the same page, indicating that a slip was made in proof-reading. The reviewer might, instead, have pointed out that this section gives a fairly detailed account of Black's masterly researches on the mild and caustic alkalis, and that this is unusual in a School Certificate text-book.

(5) "the definition of a 'pure substance', as given, would include solutions." The author was careful to amplify his definition of a compound (not substance) by stating that it included the law of constant proportions, namely: "a pure compound always contains the same elements in the same proportions by weight." This effectively excludes saturated solutions and eutectics, since their composition varies with temperature and/or pressure.

(6) "Jabir and Geber are confused, as in other places (pp. 257, 310, 344, etc.)." Dr. E. J. Holmyard, an authority on Arabian science, says in "The Great Chemists", p. 11, "The greatest chemist of Islam . . . was Jabir ibn Hayyan, who is more familiar to Western readers under the name of Geber". The "Encyclopædia Britannica" confirms this view, so that there is at least some authority for the author's 'confusion'.

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One object of a review is to direct attention to points in a book on which there may be differences of opinion even among experts, and it is generally accepted that such discussion is useful and interesting. Mr. Cavell has raised one or two points which merit further consideration.

(1) In an elementary work, where no authorities are quoted, it is best to follow the modern experts. The date 1674 is now generally accepted for the discovery of phosphorus, as Mr. Cavell now seems to imply, and it is given, for example, in Roscoe and Schorlemmer and in the new edition of Mellor's "Modern Inorganic Chemistry". The matter of the letter of Leibniz is dealt with in special publications. The references to Mellor (presumably the large "Treatise", in which all statements, right and wrong, are quoted), Thorpe's "Dictionary" and the "Encyclopædia" are beside the point. The author of a book is expected to use critical judgment.

(2) As the reviewer stated, the point about the name of argon was new to him but might have escaped his attention. He consulted a pupil of Ramsay's on the matter, but was told that nothing was known of it and that it was improbable. It is interesting to have the source indicated. Whether it is useful to mention it in an elementary book is questionable. The statement in the review is quite unobjectionable and leaves the matter open.

(3) Other examiners object strongly to the use of such words as 'tip' to describe careful quantitative work, and it is specifically condemned in a report of the London Higher School Certificate examiners. Some teachers may encourage such slipshod words but most would, the reviewer thinks, not favour them.

(4) Most authors are grateful when errors of any kind are pointed out.

(5) The reviewer sees no reason to modify what was said under this head and adheres to his opinion.

(6) The statement that the mineral acids were discovered by Jabir is not accepted by the modern authorities on Arabic science, such as Ruska. The statement quoted from Holmyard is perfectly correct but has no real bearing on the matter. The point, which seems to be missed by the author, is the relation between the writings of Jabir (the authenticity of which has also been questioned) and the Latin work which goes under the name of Geber. The information in the book is based on old-fashioned sources and requires correction. THE REVIEWER.