NOTES AND NEWS

A CORRECTION TO THE "REEXAMINATION OF THE CRYSTAL STRUCTURE OF MELILITE"

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It has been brought to my attention that certain sentences in my paper "Reexamination of the crystal structure of melilite" concerning Goldsmith's paper "Some melilite solid solutions" are misleading. The purpose of this note is to correct these errors and to apologize to Goldsmith.

Goldsmith carried out quenching experiments to determine the solubility of $Na_2Si_3O_7$ in the akermanite-gehlenite series and found that the amount of Na_2O varied from 0 per cent in akermanite to 3.85 per cent in gehlenite. This amount explained about half of the Na in the most sodic natural melilites. He then considered various ionic replacements to counter-balance the substitution of Na^+ for Ca^{2+} and came to the conclusion that "with the possible exception of this cation replacement (OH^- for O^{2-}) it is thus improbable that soda can enter the melilites by any means other than as a replacement for Ca with the accompanying Si^{4+} for Al^{3+} substitution." He further states that "The influence of hydroxyl is unknown but probably is not large" and that "the fact that the melilites tend to show high Si contents might be used as an argument against hydroxyl and might favor the argument for $Na_2Si_3O_7$ substitution." In my paper, due to unfortunate wording (especially the accidental omission of the word "other" between the words "only" and "reasonable," line 10, page 657, and in the last sentence of the abstract) the impression is given that Goldsmith postulated that OH replacement is the major balancing mechanism for the replacement of Ca by Na. This was not my intention. In the same section, I came to the conclusion that the presence of H_2O^+ in the melilite analyses was not a result of substitution of Na for Ca, and this confirms Goldsmith's statement that "the influence of hydryoxyl . . . is probably not large."

References

Goldsmith, J. R. (1948), *Jour. Geol.*, **56,** 437.
Smith, J. V. (1953), *Am. Mineral.*, **38,** 643.