LETTER

The University of New England,
Armidale, New South Wales.

The Editor,
The Canadian Mineralogist.

DEAR SIR,

I should like to reply to the letter headed "A Correction", by John McAndrew and A. B. Edwards (*Canadian Mineralogist*, **6** pp. 298–299) concerning my earlier article "Studies of Polished Surfaces of Pyrite and some Implications." (*Canadian Mineralogist*, **6**, pp. 87–118). It is unfortunate that my reply has been delayed a full year, but as I did not receive a copy of their letter prior to publication, this has been unavoidable.

Your correspondents state (p. 298):

> On p. 88 Dr. Stanton writes: "Recently McAndrew and Edwards (1954) have noted very weak anisotropism in pyrite from Rum Jungle, Australia, which they thought might be due to a high nickel content."

They then quote a portion of their report, to which I had referred, and follow this by saying:

> We are at a loss to understand how Dr. Stanton could have misread this to mean that we thought the pyrite had a high nickel content.

If you, and any interested readers, turn to my p. 88, you will see that what I actually wrote was:

> Recently McAndrew and Edwards (1954) have noted very weak anisotropism in pyrite from Rum Jungle, Australia, which they thought might be due to a high nickel content (suggested by the presence of associated nickel minerals). *Their* x-*ray powder photographs showed, however, that the material was close to "pure" pyrite and contained less than 0.5% nickel.*[1]

It is thus apparent that I have not only been quoted out of context, but in fact, been misquoted by your correspondents.

Inaccuracies aside, however, it would appear that McAndrew and Edwards are unhappy about my use of the word "high" when they had used the wording "might contain *some*[1] nickel". As a large proportion of all pyrites subjected to sensitive spectrographic analysis can be found to contain *some* nickel, this statement of McAndrew and Edwards does not really mean very much if taken literally and I still think their *x*-ray work was prompted by a suspicion of a high (comparatively) nickel

[1]Italicised only for the purposes of the present quotation: R.L.S.

content. Perhaps however, I should not have assumed this, and short of actually quoting them (which, as their report had little real relevance to the main theme of my contribution, would have required undue space in an already long paper) should have used the words "unusually large".

While on the matter of "corrections" perhaps I should also draw your attention to their line 1, p. 298, in which they say "May we correct a mis-statement, attributed to us . . ." May I point out that I did not attribute a mis-statement to McAndrew and Edwards. The impression I gain from their letter is that they felt I had mis-stated their work.

I feel it is unnecessary for me to comment on the final three paragraphs (and particularly the final sentence) of their letter, and leave these to the scrutiny and judgment of your readers.

Passing from this, there are several points concerning my paper that I should mention.

1. On p. 108 ("Discussion of Mineralographic Methods") I inadvertently omitted reference to the observations of Neuerburg (Neuerburg, George J., 1947; Optical figures obtained with the reflecting microscope. *Amer. Min.* **32**: pp. 527–546), who recognised quite clearly that polishing causes a change in the optical properties of mineral surfaces. In his Conclusion, he states:

> Figures obtained from polished surfaces are different from those obtained from crystal faces of the same mineral and this is believed due to the mechanical effects of polishing.

2. In part 2 "The Polishing Method" I gave the melting point limits of a microcrystalline wax as 170°C to 190°C (p. 110, last paragraph). This was a slip in writing and proof-reading and should have been 170°F to 190°F.

3. On p. 113, I stated that "The average time required for preparation of the surfaces illustrated was about six to seven minutes, with a maximum of about ten." Subsequent work in other laboratories has shown that a rather longer time may be required—perhaps fifteen to twenty minutes for the average section—such reduction in efficiency being variable and apparently due to the dust content of the surrounding air. The experimental work reported in my paper was carried out in air-conditioned, essentially dust-free metallographic laboratory, and probably represents close to highest possible efficiency.

In all polishing work care should therefore be taken to keep airborne dust at an absolute minimum.

Yours sincerely,

R. L. STANTON