

## CORRESPONDENCE

The Editor,

*Journal of Glaciology*

SIR,

*Comments on "Regime of an Afghan glacier"*

In the paper by Gilbert and others (1969, p. 58), the passage "The greater snow to the east in the Karakoram mountains produces a lower snow line, e.g. 4 000 m on the Chogo Lungma Glacier (Untersteiner, 1957) . . ." is incorrect. In fact, the snow line on the Chogo Lungma Glacier is 700 m higher and therefore hardly lower than on the Afghan glacier discussed in the paper.

The altitude of the snow line was *not* given in the Untersteiner (1957[b]) reference quoted in the list at the end of the paper by Gilbert and others, but in an earlier paper by Untersteiner (1957[a], p. 5) it was given as 4 800 m, according to Wissmann. The snow line of the Chogo Lungma area has been discussed in detail by Kick (1964), who gave an altitude of 4 700 m, but generally in the Karakoram it is 5 000 m and higher.

Gilbert and others have undoubtedly been misled by Untersteiner's (1957[b]) reference to "firn" at an altitude of 4 000 m, but in this case "firn" meant old winter snow that had not melted in June. According to "Mass-balance terms" (Anonymous, 1969, p. 6), "firn" is defined as snow which has passed through one summer. If only Untersteiner had followed this definition, this misunderstanding would have been avoided; hence such an error may demonstrate the value of clearly defining glaciological terms. But in spite of this, the usage of "firn" for old winter snow in spring time will continue, since this term—even in a definite physical sense—is fixed in common language for all people in Alpine countries and for millions of skiers. This term should not be defined in a totally different manner for its scientific application.

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## REFERENCES

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Gilbert, O., and others. 1969. Regime of an Afghan glacier, by O. Gilbert, D. Jamieson, H. Lister and A. Pendlington. *Journal of Glaciology*, Vol. 8, No. 52, p. 51-65.  
Kick, W. 1964. Der Chogo-Lungma-Gletscher im Karakorum. II. *Zeitschrift für Gletscherkunde und Glazialgeologie*, Bd. 5, Ht. 1, p. 1-59.  
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Untersteiner, N. 1957[b]. Glazial-meteorologische Untersuchungen im Karakorum. II. *Archiv für Meteorologie, Geophysik und Bioklimatologie*, Ser. B, Bd. 8, Ht. 2, p. 137-71.

SIR,

*Reply to Dr W. Kick's comments on "Regime of an Afghan glacier"*

I am grateful to Dr Kick for questioning a statement in our paper (Gilbert and others, 1969, p. 58) and particularly for his further references on height of the snow line in the Karakoram. There is difficulty in gleaning this from expedition papers; any error in interpretation is the authors' and not Untersteiner's. "Firn" is generally understood but the problem is really one of interpreting the snow line in the field, particularly in these subtropical ranges of marked relief. Dr Kick's point is very