

The Editor,  
*The Journal of Glaciology*

SIR,

For over twenty years I have used the term "glacierization" in the teaching of geomorphology in the Universities of Edinburgh and Sheffield, and I have every intention of continuing its use in future. Indeed, with all due deference to Professor Flint, I do not see how I can otherwise achieve clarity in my own exposition or foster it in my students' thinking.

The terms "glaciation" and "glacierization" are required since we have to deal with two radically different processes.

*Glaciation* is the modification of the surface of a land by ice as the result of a glacial episode. The modification may be mainly erosive as in Skye, or mainly depositional as in East Anglia. In either case it is irreversible; as a result of the glacial episode the landscape is significantly changed in ways that are nowadays well understood when the adjective "*glaciated*" is used. By contrast we can speak of *unglaciated* (or as Davis sometimes preferred "*never-glaciated*") areas which have not been so modified.

*Glacierization* as envisaged by Wright and Priestley is also a process—the investment of a land mass by ice. Since we are dealing with a process it is not enough, as Professor Flint suggests, to make do with adjectival forms such as "glacier-covered"; we need a noun. And since the process, in strong contrast to the irreversible process of glaciation, is a reversible one, the noun must be a different one. Ice masses wax and wane with climatic change; the lands they invest are thus *glacierized* and *de-glacierized*. The final state, glaciologically and climatically, may approximate closely to the first. In the interim glacierization may have been gradual or rapid, heavy or light, widespread or local. A fair example of the utility of such terminology is offered in the discussion on "Unglaciated Areas" by Dr. Farrington and myself on pp. 77 and 78 of *Irish Geography*, Vol. 2, 1950. It is to be noted that the negative form of "glacierized" cannot be "unglacierized" but must be "de-glacierized."

There remains, however, the consideration that even if the need for such a term as "glacierization" be admitted, this may not be the best for the purpose. Few others present themselves. "Glaciated" has been used as an adjective but is very poetic sounding and no useful substantive can be created from it. And this consideration applies even more strongly to adjectives such as "ice-covered" or "glacier-covered" which are already compound. "Glacification" has been used in this sense, but it is used much more frequently and appropriately to denote the change of state from liquid water to ice; it is the analogue in form and sense of "gasification" and should be left for employment by those who have occasion to use it in this way. Nothing else offers but glacierization. Nor is "glacierization" so cacophonous that there should be any difficulty about its acceptance as a technical term by a generation that has already accepted the nationalization of its mines, the rationalization of its industry, the motorization of its cavalry, the totalization of its betting, the sterilization of its Green Belts, the radio-serialization of its great novels, and the Americanization of its leisure. In fact I see much less obstacle arising to the popularization of this term because of its lack of euphony than from lack of visualization (I mean, of course, failure to visualize) the very real advantages which attend its use.

Glacierization in short seems to me both a necessary term and the best for the job.

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PS. The case for spelling such words as "glacierize" with a "z" has of course been conclusively put by Fowler in his dictionary of *Modern English Usage*.

SIR,

*A Second Monte Rosa Tunnel*

A new tunnel at an elevation of 4220 m. was started on Monte Rosa at lat. 87°6' N. and long. 632°4' E. on the Swiss Topographical Map, headed due south-east and graded horizontally into the steep ice slope. The tunnel pierced through to bed rock at 92 m.

This year I had a group from the Austrian Alpine Club who occupied a chamber excavated in the snow continuously for two months except for three days during a September blizzard. The