even at moderate depths in a glacier would be slight compared with that occurring at points where the rock bed is open to direct observation. But even if it occurred on a relatively small scale, it would help to account for the wide distribution of *roches moutonnées* and related forms on the floors of valleys which have been subjected to glaciation, and would imply that the mechanism envisaged by Dr. Carol might form a most important group of processes by which glaciers erode the valleys which they occupy.

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CORRESPONDENCE

The Editors,
The Journal of Glaciology

SIRS, *Glacier Crevasses*

The point has been raised that my remarks in the discussion on the Extrusion Flow paper (*Journ. Glaciology*, Vol. 1, No. 1, 1947, p. 19), particularly my Figure 4, suggest that transverse crevasses may be formed without the need for a step in the glacier bed. I gather that the general view is that the presence of transverse crevasses indicates a step in the rock floor. This is a point of fundamental importance and it must be settled.

My own opinion is that transverse crevasses are not necessarily associated with steps in the bed, but that a step of any magnitude arising from differences between adjacent strata would produce significant crevasse systems. I regard the crevasse as indicating a zone of tension in the ice arising from the motion of the glacier contained within its more rigid rock boundaries, and I do not believe it is necessary to have steps in the bed to produce zones of tension.

If only we could find it possible to explore a glacier thoroughly throughout its length and depth, as we do as engineers when investigating landslips, by trenches and borings extending to the limits of movement, I believe many points of the above nature could be settled. Until some large investigation of this nature is undertaken our knowledge will always be severely restricted.

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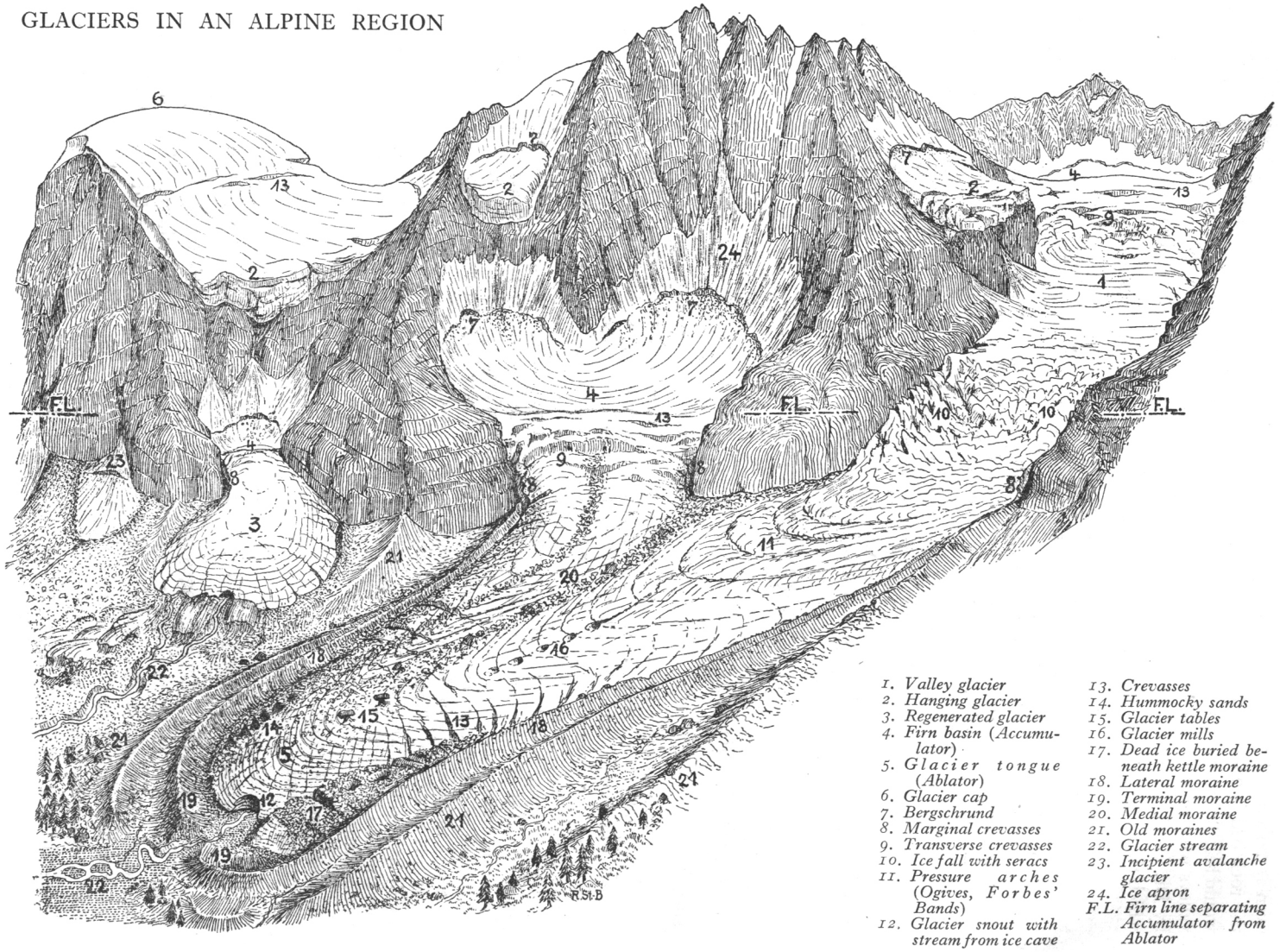
GLACIERIZATION AND GLACIATION

THE drawings on the following pages were made by Dr. R. Streiff-Becker (Zürich) for one of the Editors in order to illustrate an article to be published elsewhere. They show the relationship between a glaciated area and the living glaciers which moulded it. A district covered by living glaciers is conveniently described as "glacierized." Wright and Priestley used this term in their *Glaciology* (p. 134), for land "inundated by ice" (German *Vereist*). It should prove valuable in antithesis to "glaciated."

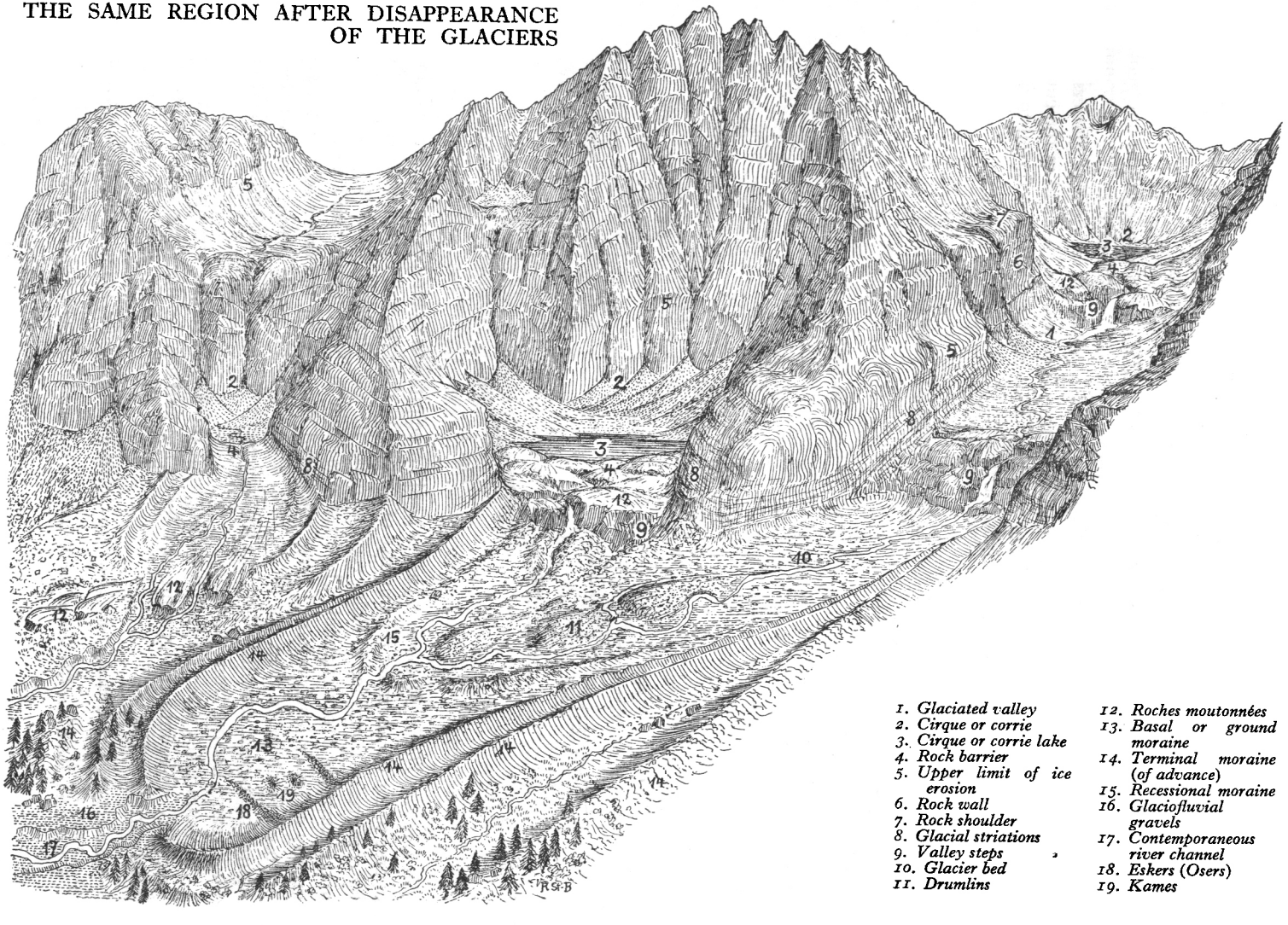
GLACIERS IN AN ALPINE REGION



1. *Valley glacier*
2. *Hanging glacier*
3. *Regenerated glacier*
4. *Firn basin (Accumulator)*
5. *Glacier tongue (Ablator)*
6. *Glacier cap*
7. *Bergschrund*
8. *Marginal crevasses*
9. *Transverse crevasses*
10. *Ice fall with seracs*
11. *Pressure arches (Ogives, Forbes' Bands)*
12. *Glacier snout with stream from ice cave*
13. *Crevasses*
14. *Hummocky sands*
15. *Glacier tables*
16. *Glacier mills*
17. *Dead ice buried beneath kettle moraine*
18. *Lateral moraine*
19. *Terminal moraine*
20. *Medial moraine*
21. *Old moraines*
22. *Glacier stream*
23. *Incipient avalanche glacier*
24. *Ice apron*

F.L. Firn line separating Accumulator from Ablator

THE SAME REGION AFTER DISAPPEARANCE OF THE GLACIERS



1. *Glaciated valley*
2. *Cirque or corrie*
3. *Cirque or corrie lake*
4. *Rock barrier*
5. *Upper limit of ice erosion*
6. *Rock wall*
7. *Rock shoulder*
8. *Glacial striations*
9. *Valley steps*
10. *Glacier bed*
11. *Drumlins*
12. *Roches moutonnées*
13. *Basal or ground moraine*
14. *Terminal moraine (of advance)*
15. *Recessional moraine*
16. *Glaciofluvial gravels*
17. *Contemporaneous river channel*
18. *Eskers (Osers)*
19. *Kames*