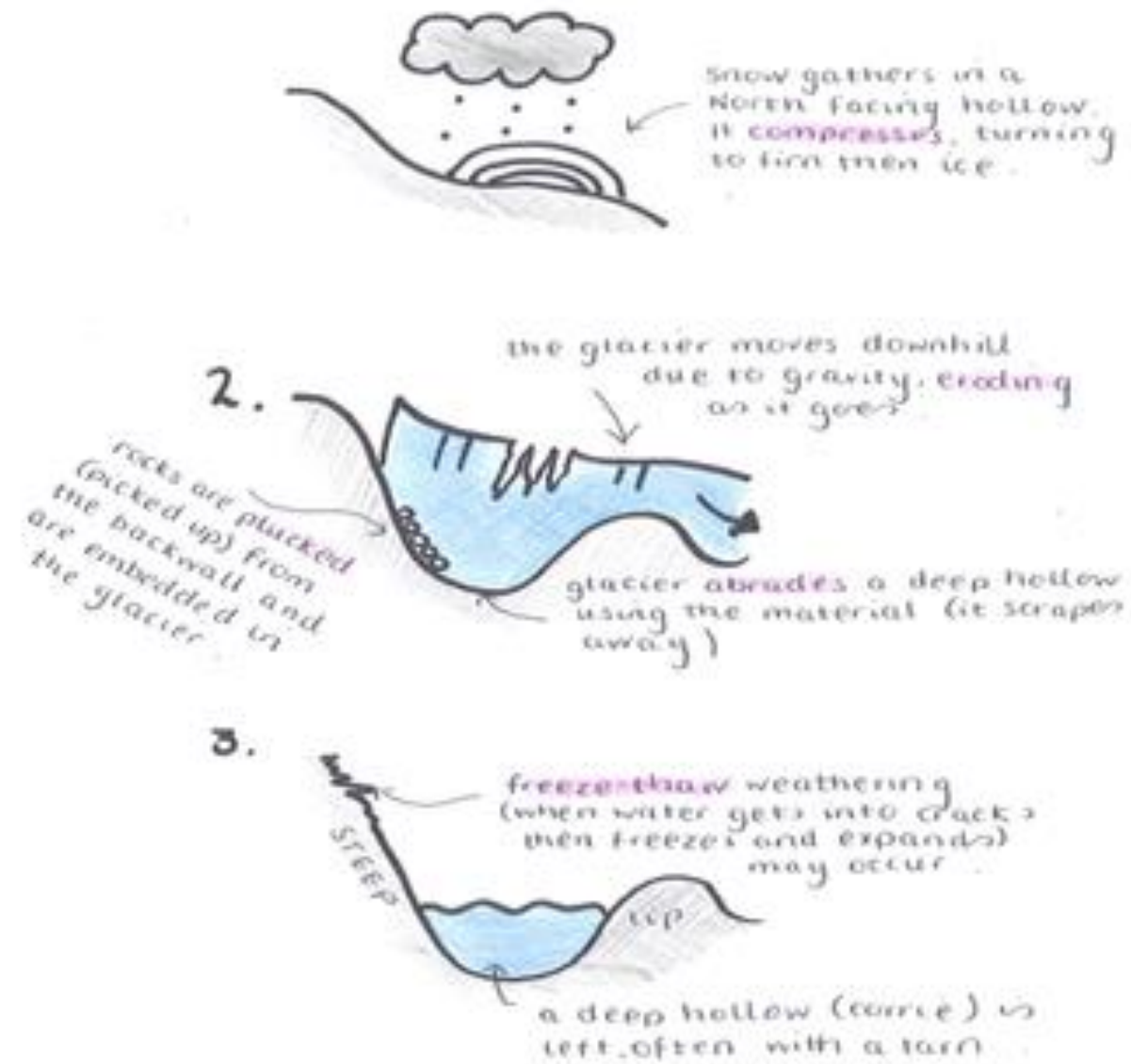


# Corrie

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## How are Corries formed?

Corries form in hollows where snow can accumulate. The snow compacts into ice and this accumulates over many years to compact and grow into a corrie/cirque glacier. This then moves down hill because of gravity and the mass of the ice. The ice freezes to the back wall and as it does plucks rock out steepening the back wall. Erosion and weathering by abrasion, plucking and freeze-thaw action will gradually make the hollow bigger.

Even though the ice is trapped in a hollow and unable to move down hill, gravity will still encourage it to move. These processes create a characteristic rounded, armchair shaped hollow with a steep back wall. When ice in a corrie melts, a circular lake is often formed at the bottom of the hollow. This is known as a **tarn**, eg Red Tarn on the eastern flank of Helvellyn (see left).

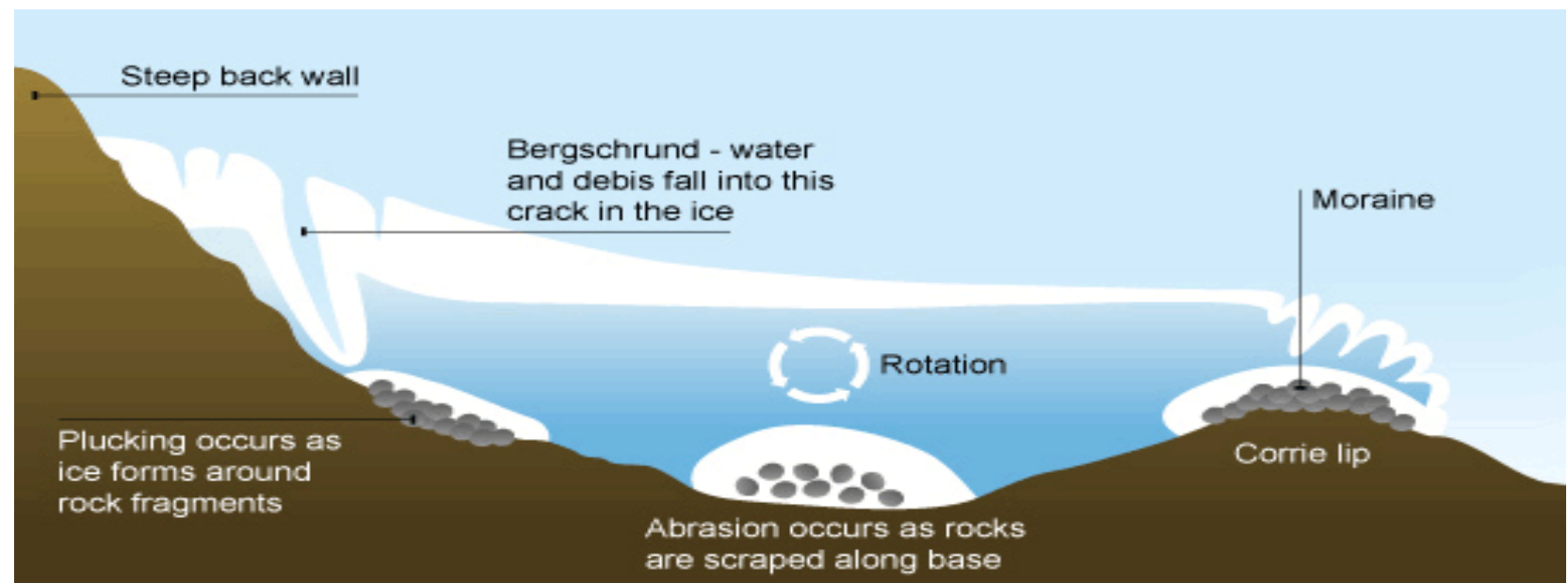
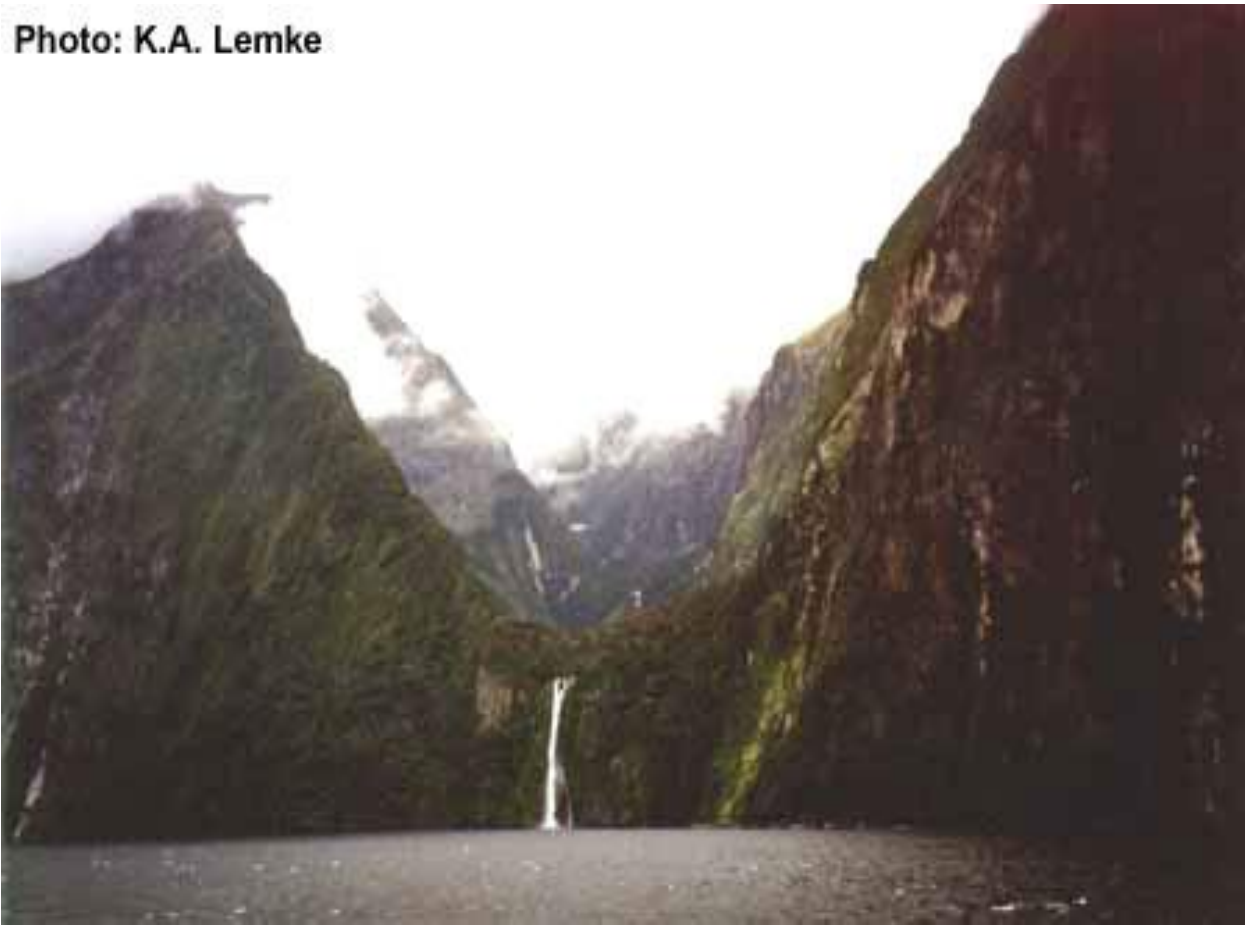
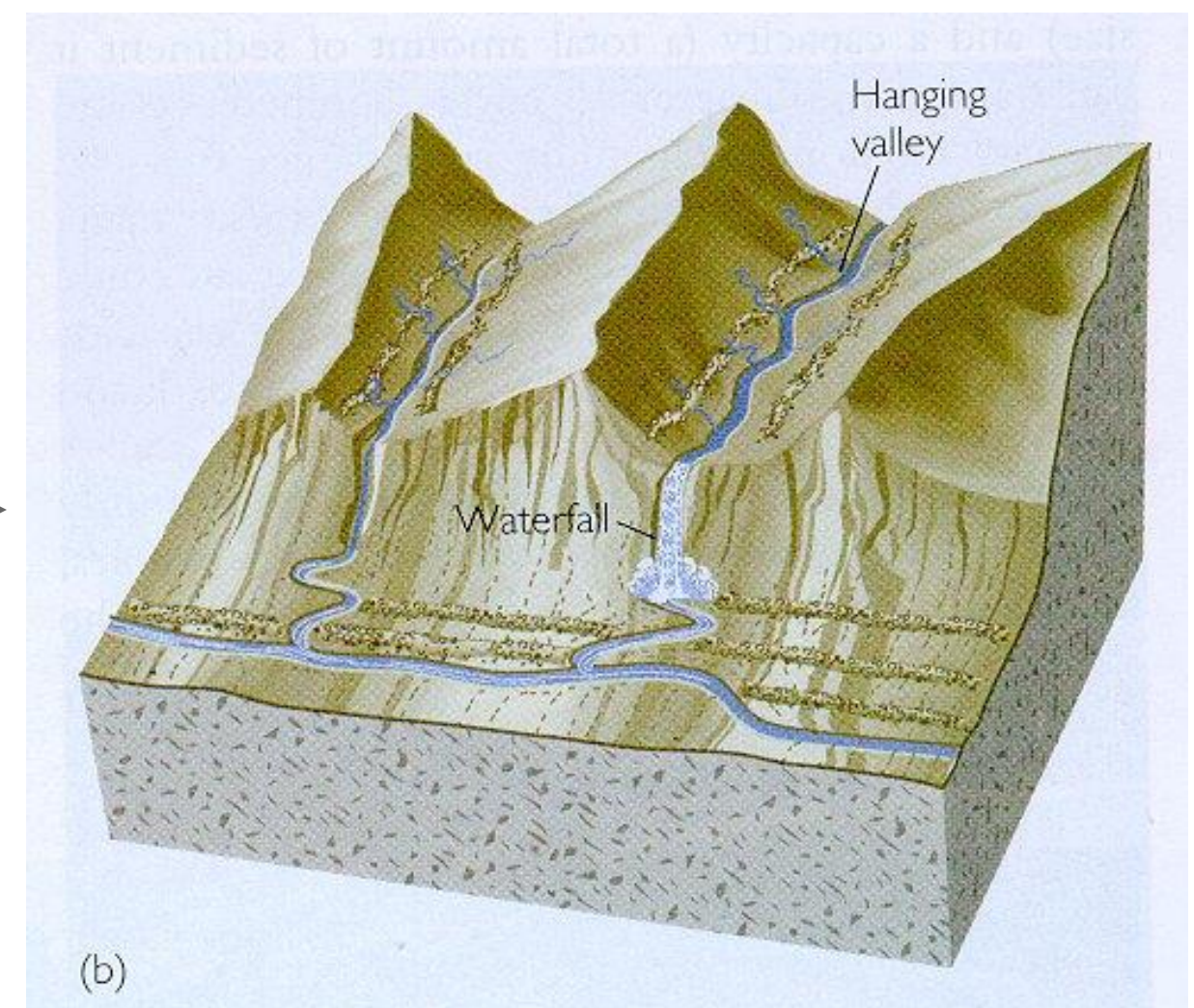
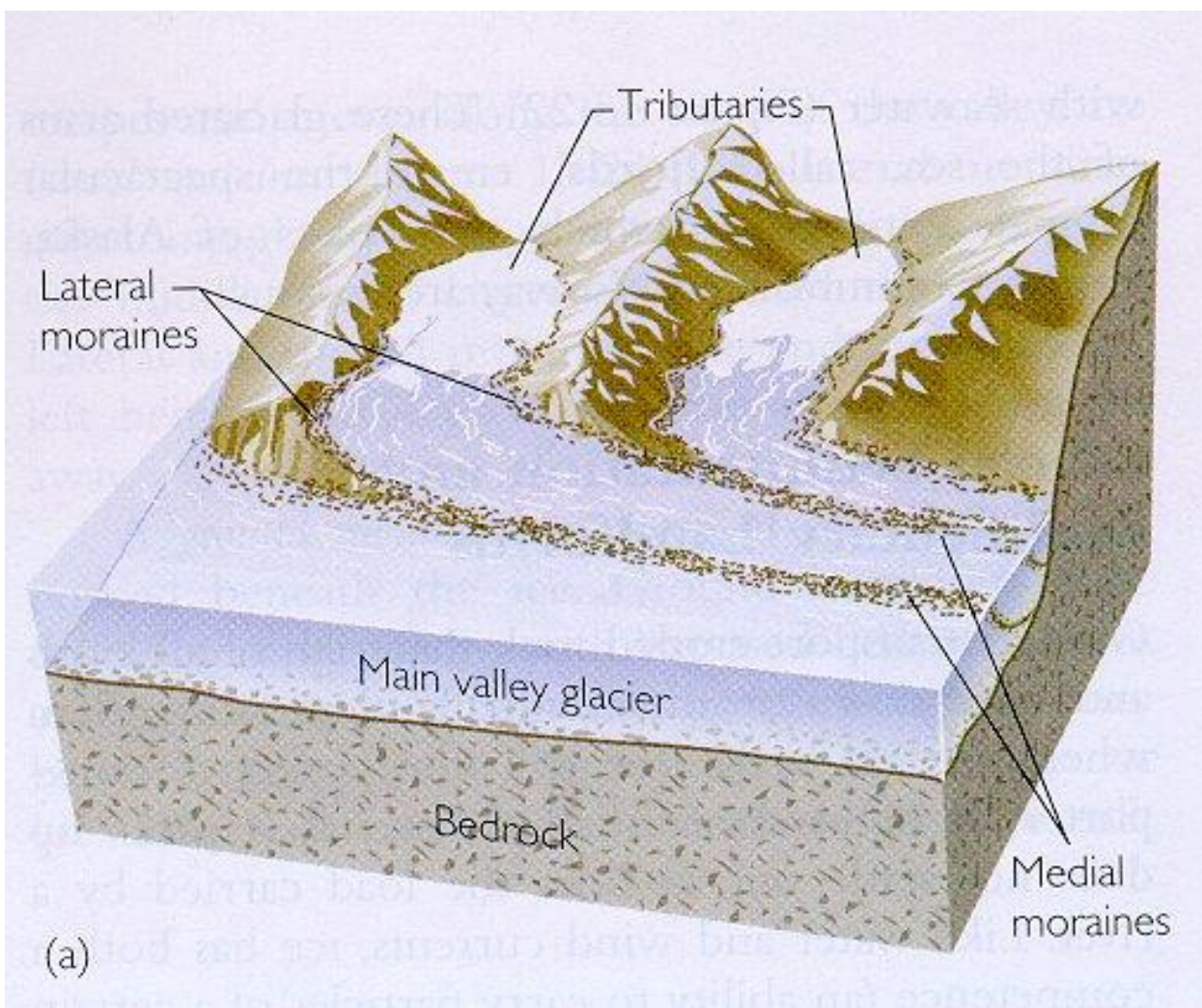


Photo: K.A. Lemke



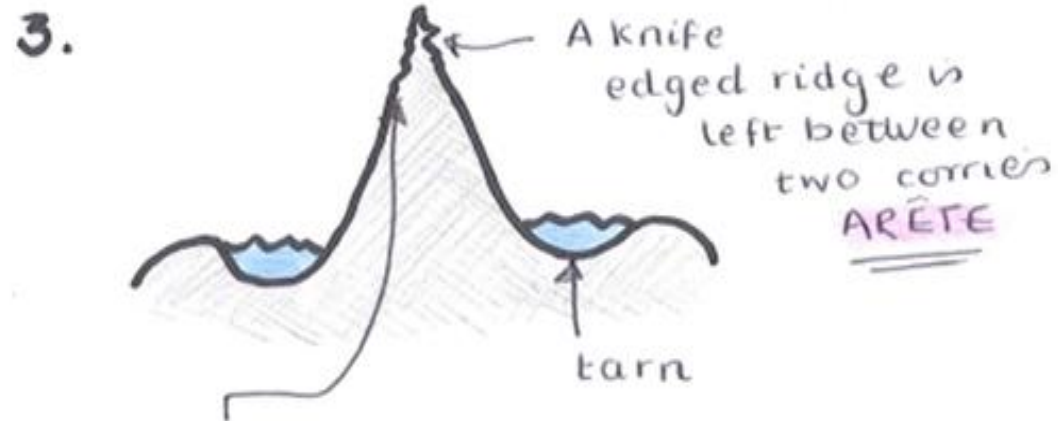
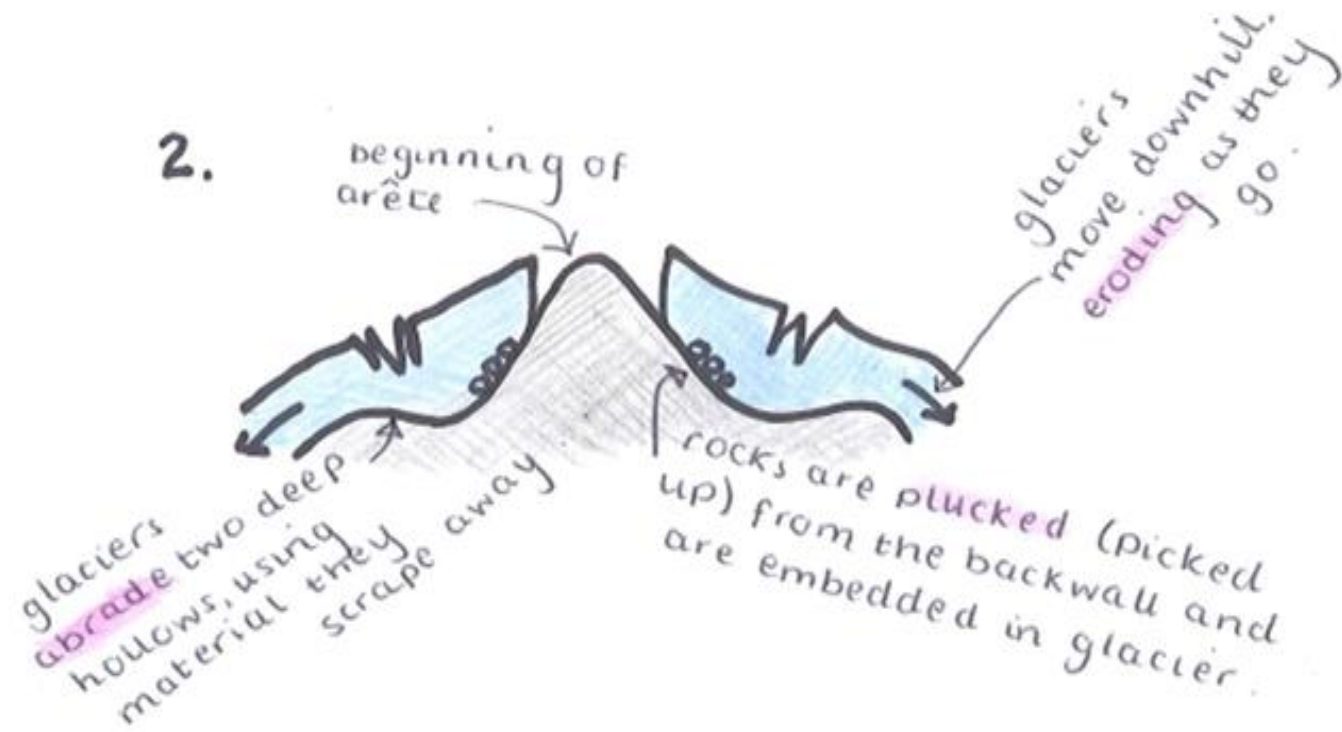
## What are Hanging Valleys?

Within glacial valleys there are main glaciers and smaller tributary glaciers (just like with rivers). The main glacier can erode its valley to a much greater extent because they are wider, deeper, have more mass and more material to use as erosive tools. The tributary valley glaciers are smaller, have less mass and material hence erode their valley less. This means that the main valley is deeper, wider and steeper, and this becomes really evident post glaciation, when the tributary glacier is left hanging high above the main valley. When rivers return, they often form **waterfalls** in these hanging valleys.



# Arête

1. Snow gathers in two hollows back to back. It compresses turning to firn then ice.



freeze-thaw weathering (where water enters cracks, freezes and expands) takes place here.

## What are arêtes?

An **arête** is a knife-edge ridge. It is formed when two neighbouring corries run back to back. As each glacier erodes either side of the ridge, the edge becomes steeper and the ridge becomes narrower, eg Striding Edge found on Helvellyn in the Lake District.



## How are pyramidal peaks formed?

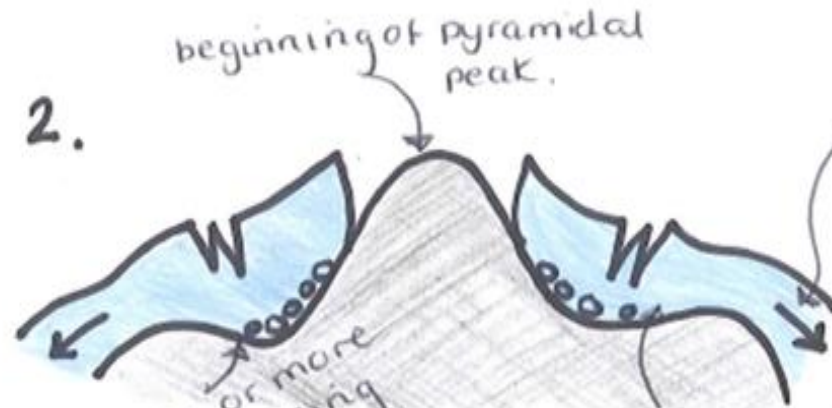
A pyramidal peak is formed where three or more corries and arêtes meet. The glaciers have carved away at the top of a mountain, creating a sharply pointed summit, eg Mont Blanc, The Matterhorn and Mount Everest.



# Pyramidal Peak

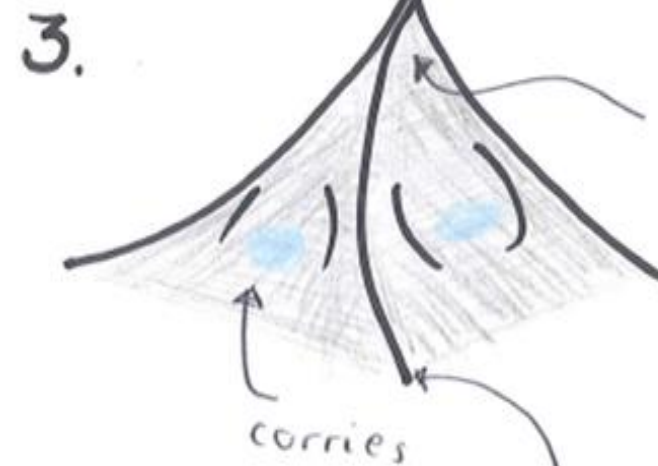
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1. Snow gathers in three or more hollows back to back. It **compresses**, turning to firn then ice.



2. glaciers **abrade** three or more deep hollows - using material they scrape away.

glaciers move downhill, **eroding** as they go.  
rocks are **plucked** (picked up) from the backwall and are embedded in glacier.



3. A pyramidal peak is left. **Freeze**. **thaw** weathering (where water gets into cracks, freezes, expands) sharpens the peak.

arêtes between both corries.



## How are Ribbon Lakes formed?

As a glacier flows over the land, it flows over hard rock and softer rock. Softer rock is less resistant, so a glacier will carve a deeper trough. When the glacier has retreated, (melted) water will collect in the deeper area and create a long, thin lake called a **ribbon lake**. Many of the lakes in the **English Lake District** are ribbon lakes, eg Windermere. The areas of harder rock left behind are called **rock steps**.

The glacier moved this way

