

land we see certain white patches here and there on the higher mountain ranges of the Alps. These are more or less covered by snow and glaciers. The highest mountain in the Alps, Mont Blanc, rises more than 15,000 feet above the sea, and there are many other mountains in this great chain which approach that height, ranging from 10,000 to 15,000 feet high. The mean limit of perpetual snow upon the Alps, is about 8,500 feet above the level of the sea. Above that line, speaking generally, the country is to a great extent covered with snow, excepting where the tall cliffs are too steep to hold it, or on those sides of even high valleys that face the southern sun. In the higher regions it gathers on the mountain slopes, and in the large *cirques* or recesses, which like vast amphitheatres, are characteristic of all true mountain groups or ranges that I have seen. By force of gravity, and the alternate melting and regelation of the molecules of ice, especially in summer, the gathered snow presses downwards into the main valleys; where, chiefly in consequence of the immense pressure exerted by the vertical weight and onward pressure of the accumulated mass, the snow year after year is converted into moving ice. Without entering on details, it is enough if I now state that this is proved by well-considered observations made by the best observers of the icy phenomena of the Alps.<sup>1</sup>

Still accumulating, year upon year, by degrees this ice slides down the valley, and is often protruded in great tongues far below the limits of perpetual snow; for some Swiss glaciers descend as low as from *three* to *four* thousand feet or thereabouts above the level of

<sup>1</sup> See Dr. James Croll's work on 'Climate and Time.'