system of examination which Mr. James Geikie has most ably carried out.

The superficial formations of Scotland, especially a wide-spread stony clay, known as "Till," first claims his attention; and the manner in which this occurs and the scratched stones which are found in it, lead to the conclusion that ice was the agent by which it was produced. "Each stone in the till gives evidence of having been subjected to a grinding process. Almost every fragment has been jammed into the bottom of a glacier, and, held firmly in that position, has been grated along the rocky surface underneath, or over a pavement of the tough stony clay itself." All the theories of the formation and motion of Arctic glaciers are examined—the phenomena of Arctic glaciers, and their action upon the rocks over which they move. The origin of icebergs, and the transportation of rock debris by them, one after the other, receive a full share of attention. The physical changes which take place in those vast fields of moving ice, and the part which solar heat plays in their formation, their progress, their regulation, and their dissolution, are explained with care. We must, however, claim to us, the least satisfactory portion of this interesting volume. The flow of solis, under the influence of mechanical forces, which has been the subject of some fine experiments, appears quite sufficient to explain the phenomena without the aid of the processes of crushing and re-sludging, of thawing and freezing (regregation), which have been severally brought in to explain the phenomena. The causes of cosmetic changes of climate, both astronomical and geophysical, are naturally the subject of consideration; and Mr. Croll's theory, which shows that changes of climate result indirectly from astronomical causes, is, in the main, adopted—the effects due to the elevation or depression of large tracts of land, and the consequent alteration in atmospheric or oceanic currents being thought to be insufficient to produce the great climatic changes, of which we have evidence, over countries so large as those under consideration.

The post-glacial and the more recent deposits of Scotland form the starting-point for an examination of the superficial deposits of England and Ireland, of Scandinavia, of Switzerland, and of North America. The cave deposits of England and their relation to the two great periods into which archeologists divide their "stone-age" in the history of man—namely, the Paleolithic, or Old-stone period, and the Neolithic, or New-stone period—advance this remarkable story to the time of the first appearances of man in the British Isles.

There is a great charm in the well-balanced union of cultivated powers of observation and analytical thought, with combinable imagination and much poetical feeling, which runs through the pages of this volume. A short quotation from the concluding chapter will show this, and give a favourable example of Mr. Geikie's style.

* * *

In short, the writer has passed between the Tungu and the Nyanguru (Kilwa) Lakes. The first was in February, 1857, when, after rounding the latter, he marched upon the southern end of the former and discovered the presents which he had called the Cameroon. The second was in the middle of the same year, when he returned from Lomba, and struck the Moero water. The third was in 1858, when, after passing Long and, enquiring of Mr. Stanley, he passed from Uvumyamebe to Lake Bangweolo or Benmu (Benue).

It becomes necessary to insist upon this fact. A lately published volume, which honours me by introducing my name amongst distinguished African travellers, has evidently been compiled without consulting anything that I wrote upon this subject, for my last publication determines that Dr. Livingstone never passed between Lakes Tanganyika and Nyanguru (Kilwa), and that the story of the passage given by Mr. Johnstone, and confirmed by Mr. Johnson's counsel to authors, viz. that the party passed away.

DR. LIVINGSTONE.

* * *