

carried on researches thirty miles to the S. E. in the valley of the Siachen Glacier. The most important of all was the expedition of the DUKE.

Specimens collected from rock *in situ* are, however, few in number, and the greatest part comes from glacier moraines. So »a tolerably good idea may be formed of the constitution of the slopes from which each is derived«. I do not need to say that a thorough geological survey of the High Kara-korum will take generations. It will have to be carried out by specialists, whose work will be much more arduous and difficult than that of the glaciologists, topographers and mere climbers.

Now we are told that:

The rocks of which specimens were procured belong to the two categories of crystalline schists and sedimentary deposits, with the addition of certain specimens of serpentine. Apart from this last there are no representatives of eruptive rocks, although granite is highly developed in the mountains of the Baltoro valley.¹

The following classification is very important:

A. Schists and Crystalline Rocks.

1. Biotite gneiss on Bridge Peak *in situ*.
2. Noble Serpentine collected along the whole course of the Baltoro and had previously been recorded by Lydekker from the Shigar region and considered to be of mesozoic age, and by Conway from White Fan Pass and Crystal Peak.
3. Vein Quartz on Bride Peak.

B. Sedimentary rocks.

The rocks of palpably sedimentary origin, collected in the Baltoro moraines, fall into two principal groups; one composed of schists and siliceous anagenites, the other of most various limestones, dolomites and calcareous breccias.

The calcareous group presents an extraordinary wealth of varieties and can be divided into three sub-groups: limestones, comprising also dolomites and dolomitic limestones, coloured marbles, and breccias, the latter more abundant than all the other rocks.

According to Vittorio Novarese, the specimens collected at the camps are insufficient for an attempt to arrange the various types in their order of geological sequence. However, some of the calcareous breccias with micaceous cement come from the contact zone of the schists and anagenites with the limestone and dolomite.

The determination of the geological age is impossible, as no organic remains were found. Only comparison with the rocks known in other parts of the district, enables the geologists to make an approximate determination. A great complex of formations (alternations of schist, limestone, dolomite containing serpentine, and quartzites — Lydekker and Godwin-Austen) occurs in a syncline between Shigar and Askoley, in Baltistan, and in the range rising west of the Biafo Glacier: this complex is supposed to be the equivalent of the formations of the Upper Baltoro valley. Lydekker ascribes this so-called Baltistan-Braldoh syncline to his Zanskar System, attributed to a carbon-mesozoic age. »The series which is fossiliferous at Shigar and comparable

¹ Op. cit., p. 430 *et seq.*