

THE MOUNTAINS OF CENTRAL ASIA AND THEIR NOMENCLATURE

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THIS subject, handled by Sir Sidney Burrard, Mason, Longstaff and others in the *Journal*, has been of great interest to me for some time. Having thrice visited the Karakoram regions I felt the necessity for a revision of the nomenclature, although at the same time I quite understood how undesirable it would be to make more alterations than were strictly required. In the words of Mason (*G. J.*, 75, 1930, p. 41), "I base my desire for a revision of the nomenclature on the ineffectiveness, inconvenience and inaccuracy of the old." I am now in Chinese Turkistan, without the necessary literature and maps, but as the Editor has invited the judgment of other Karakoram travellers before the conference of this summer, I venture to state my views.

Although the time may not yet have come to enter into details, one can certainly now already draw attention to the main divisions of the Central Asian mountains. I even believe that this is most desirable, because if put off much longer, the chances are that it will be elaborated upon grounds which may perhaps afterwards prove less correct. The solution here, more perhaps than anywhere else, must be sought in a compromise between geographers and geologists. The geographer will be readily inclined to accept a large river valley as a division between mountains. The Indus, in its course from east to west, forms a striking boundary, for a geographer, between two great mountain systems; the Hunza river below the Batura glacier in its course from north to south likewise forms a dividing line between two lofty mountain groups; and as this river is in the most westerly part of the Karakoram main chain, it is only natural that the geographer will be inclined to consider the striking Hunza gorge as the western extremity of the Karakoram, and to include the mountain group on the other side in a more westerly mountain system. For the geologist a river will be little else than an accidental phenomenon in the tectonic build of the Earth's surface. It will perhaps not be difficult for him to prove that the mountains north and south of the Indus valley arose in the same geological epoch, and that we find the same geological formations in both mountains. It will be still easier for him to show that the group west of the Hunza river dates from the same geological epoch as the chain eastwards of this stream, and that both consist of the same minerals, and are none other than parts of one and the same chain of mountains.

The geographer, adhering to his geographical standpoint, will then draw two lines, one through the Indus valley and one through the Hunza valley, which both indicate the limits between mountain systems. Nevertheless there is a very great difference between the two valleys. The Indus flows for a great distance through a mighty longitudinal Tertiary dividing line, which owes its origin to a tectonic movement of the Earth's crust; the Hunza, on the other hand, flows through a transverse gorge which the river, if not altogether, at least for the greater part, has made for itself through the Karakoram chain. As regards the Indus the geologist will, in my opinion, have to give in slightly, and as regards the Hunza the geographer will have to concede. It will be easy in the

former case for the geologist, because he too may consider the Indus valley as a very striking geological phenomenon; while in the latter case the geographer will readily admit that the accidental presence of a river valley is no reason for adding a part of the Karakoram to another mountain range to which it does not actually belong.

One of the chief points of the discussion, whether the Karakoram should actually be counted to the Himalaya, or whether one should speak, as Major Mason proposes, of the Karakoram-Himalaya. But, I would ask, does this not unnecessarily complicate the matter? Has then the Kunlun, which is no less connected with the Karakoram than the Karakoram with the Himalaya (I would almost say that the opposite is the case) not equally as much right to be comprehended in that great Central Asian Complex? And why then should one wish to cut off the Muztagh Ata? Both through study of the map and also during our expedition of the past year across the mountains from south to north, I was very strongly impressed by the fact that here are several systems distinctly separated from each other, against which separation on the map the geologist would presumably raise no objections. As a geographer I have the feeling that the linking of the popular name Himalaya with that of the Karakoram is really more of a concession to the laity. I discussed this subject with some English people in India. They told me: "For us all those mountains in the north are the Himalaya mountains." For that assurance I need not have gone to India, for every compatriot of mine knows the name Himalaya, but how many are there who have heard of the name Karakoram? When I wrote my work on our first Karakoram Expedition, I chose Karakoram as the title, but my publisher insisted on having it coupled with the name Himalaya, but he did not do so because of geographical considerations. I cannot of course judge the motives of Sir Martin Conway when he sought a title for his book on his explorations in the Karakoram, but I should say that in 1892 a title which included the name of Himalaya was an absolute necessity for the public. For the geographer that necessity does not exist, or does so no longer, and in the long run the laity will follow the geographer in such questions.

As regards a south-north division, I myself had thought of the following: Himalaya System; Karakoram System; Aghil System; Kunlun System.

As to the boundary lines, I hope to have an opportunity of publishing something later on, as part of our explorations of the past year and part of that of the coming year are bound up with the determination of these limits. Already however I would name the Indus valley as the dividing line between the Himalaya and the Karakoram, a division which our geologist, Dr. Wyss, considers wholly acceptable. The northern boundary of the Karakoram System would run along the Shaksgam valley and partly along the Upper Shyok, where Dr. Wyss found the same geological formations as in the regions eastward of the Karakoram pass, which we explored.

With regard to the westerly and easterly limits of the systems, these should also be studied on a map comprising the whole of Central Asia. About the Himalaya System there will not be much difference of opinion. With the Karakoram System it is quite a different matter. Exploration has certainly advanced so far that the easterly limit can now be determined. On looking at the map of Ladakh one is inclined to have the main chain terminated by the

Shyok valley, but on looking at the map of Central Asia I feel very doubtful, and I believe that the question in the future will not read: "Where should we draw the eastern limit of the Karakoram?" but: "Where does the dividing line run between Karakoram and Trans-Himalaya?" Here I step already into the sphere of the nomenclature. Trans-Himalaya is the name geographers recognize. For the rest it seems to me that there should be no objection to including the Trans-Himalaya, if necessary, in the Karakoram System.

I believe there is more to be said with certainty about the western boundary. At the beginning of this paper I stated that I considered the mountains to the west of the Hunza river as belonging to the Karakoram, both geographically and geologically. Major Mason, if I remember rightly, does not share my opinion, but includes that chain of mountains in the Hindu Kush. Sir Sidney Burrard and Dr. Longstaff do not express a definite opinion in favour of the Hunza gorge as the boundary between Karakoram and Hindu Kush, but merely state that it is difficult to determine a limit. Longstaff says: ". Standing on any height between Gilgit and Hunza I have found it extremely difficult to visualize where the Karakoram ends and the Hindu Kush begins."

Now the regions mentioned here were visited by us in 1925, in part at least, and by virtue of these explorations I came to the conclusion that the main chains of Karakoram and Hindu Kush in no wise lapse into each other, nay run alongside for a part. The Karakoram terminates immediately south of the point where the southern arm of the Batura valley begins. From that point onwards the ridge descends to the valley and does not continue in the main chain of the Hindu Kush. Even the chain which forms the northern limit of the Batura does not do so. The main chain of the Hindu Kush distinctly terminates, in my opinion, to the north of the Chapursan river. I have mentioned the Aghil region as a separate unit because there we have to do with a sedimentary mountain chain between the crystalline groups of Karakoram and Kunlun, while in my opinion a distinct geographical division is also possible.

As far as the nomenclature is concerned I am in agreement for a great part with the views of Major Mason. I fully realize that one should preserve the old historic names wherever possible, be it alone for the sake of the travellers who explored the Central Asian Highlands in years gone by. On the other hand, there should be no hesitation in handling alterations which serve to prevent labouring on further on a faulty basis. I hope that at the same time the different demands made upon names will be kept in view. In my opinion the inhabitants of the regions can only be interested in the names of the details. The names employed for the principal division will be chiefly of service to geographers and geologists. I therefore consider that it is immaterial whether the name Karakoram is known to the inhabitants in Hunza or not. Supposing they give another name to the Karakoram, as they are acquainted with it there, then that name would very well be given to that group, just as the Bernese Oberland is a group name in the Alps. I therefore hope that if subsequently it should prove that one of the chains to the east of the Shyok river is a continuation of the Karakoram, there will be no hesitation in including those mountains in the Karakoram System, no matter how the inhabitants of one or other of the valleys may denote those mountains. The giving of the name Karakoram is exclusively of interest to geographers, but to them it is vital. In that region

one should also be free to give a local name to one or more subdivisions (groups). At times I ask myself whether too much importance is not attached to a local name, for in some instances the inhabitants of several valleys have different names for one and the same mountain.

In the discussions already held the significance of the word Karakoram was also considered. It is regrettable that owing to an unfortunate concurrence of circumstances this name was given to one of the most magnificent snow chains of the Earth. Now that not only are the mountains known by the name of Karakoram but the name itself has obtained a trustworthy sound amongst travellers and geographers, I hope that an alteration therein will never be thought of again. That the outward appearance of the mountains bears no resemblance to its name cannot be an objection, to my mind. I might quote numerous similar instances. So one might ask why one of the least snowy mountain peaks in the vicinity of the Zermatt should be called Dent Blanche and why the base of the Mont Blanc should have been given the name of Aiguille du Gouter, for with the widest stretch of imagination it would never call to mind an "Aiguille."

When I discussed above the division of the Central Asian mountains, I put forward four mountain systems, which should simply bear the names of Himalaya, Karakoram, Aghil, and Kunlun. On the grounds already mentioned I would not advise the combination Karakoram-Himalaya, for to be consistent one would then have to add the word Himalaya to the names of the other systems as well.

In a division and subdivision of the mountain systems and the giving of names thereto one is involuntarily inclined to try to draw a parallel between these systems and the Alps, the best studied and subdivided mountains of the world, although even there the conflict over a practical division is not yet decided. The Alps are first divided into two halves, the East and West Alps (some geographers divide them into three parts). These great divisions are sub-divided into Alp groups, and the Alp groups into mountain groups, which on the whole are pretty clearly distinguished from each other. Now in the Karakoram, for instance, we at once notice a striking difference from the Alps. The Alps together form one vast entity, while the Karakoram System appears to be composed of mountain chains which in one or more places are most closely connected with the main chain. This difference in build however cannot, in my opinion, afford the slightest reason for deviating from the tested system of division of the Alps. If we apply this system to the Karakoram we necessarily arrive at practically the same results as Major Mason. Neither geologically nor geographically would it be justifiable in my opinion to consider the Kailas range as a separate range of mountains. No one who has seen even once only either the Hispar or the Siachen glacial region would allow these manifestly united mighty complexes to be separated. It stands to reason that the necessary outcome of that would be that we should have to consider the apparently so strongly individual chains east and west of the Nubra river as belonging to the same mountain system. The geographer however who casts his eye upon a carefully drawn map of sufficiently large scale will speedily be satisfied with this division, sooner at least than the traveller, who is misled by the enormous width of the Nubra valley.

The denomination of Kailas-Karakoram, etc., of Mason I indeed find both logical and practical. Geologically and, as far as I can gather from the material at my disposal here, geographically also, one may speak of the Ladakh-Karakoram, while I myself reckon the so closely united Sarikol chain with the Karakoram (I visited the immense binding knot in 1925). The denominations Kailas-Karakoram, Ladakh-Karakoram thus become equivalent to the denominations Pennine Alps, Bernese Alps, etc. There is, in my opinion, not a single objection against further applying this manner of nomenclature even to vast and striking parts of the Karakoram main chain, so that we might speak of Muztagh-Karakoram, Hunza-Karakoram, Nubra-Karakoram, etc. In order to have unity in the system of nomenclature it would, in my opinion, be advisable to alter the name of Zaskar range into Zaskar-Himalaya.

One exception I would like to make with regard to Mason's Aghil-Karakoram. From the rock specimens which the Mason Expedition brought back and the photographs which he issued, it is almost certain that in the Aghil range we have a geological formation which fully agrees with those of the mountains east of the Upper Shyok and the mountainous regions east and west of the Karakoram pass. Thus here an extensive sedimentary region exists, geologically differing entirely from Karakoram and Kunlun, from which it also deviates morphologically, while geographically it may be very distinctly outlined without being forced at all.

Just as in the Alps the Alp groups are further subdivided into mountain groups, so one can here do the same with the Karakoram groups. As an arbitrary example I would mention the Nubra-Karakoram, which could be subdivided into a Kondum group, a Saser group, etc. For the present however one will have to look exclusively at the wood and not at the trees. Only, once again, let the wood extend farther than the map of Ladakh!