

koram range east to 79° definitely, and after a slight break continue it eastwards.

In the map of *Tibet and Adjacent Countries*, on the scale $1/2\frac{1}{2}$ M, published in 1914 by the Survey of India, the name Karakoram Range is actually written between 72° and 92° E.; that is to say, it extends east of Lhasa. But on the same map published in 1920 in a second edition with a new name *Map of the Himalaya Mountains and the surrounding Region*, the name Karakoram range is removed, as are some other range names. But in the margin is a diagram of the ranges based on that in Burrard and Hayden, in which the Kailas and Ladakh ranges extend eastward as before to 92° , but the Karakoram is cut short at 80° E.

It may appear from all this that there is a much larger question to be discussed than whether the Karakoram Pass is on the Karakoram range. To geographers, and still more to climbers, the *Karakoram* has a pretty definite and limited meaning. They would not allow it, we think, to extend east of the Upper Shyok. Should they be obliged to allow the name *Karakoram Range* to be carried right away east of Mount Everest because geologists are ready to identify the sequence of rocks observed in Eastern Tibet with that observed in Ladakh?

These are matters on which opinion may differ widely, and will not easily be reconciled. The Editor of the *Geographical Journal* will be happy to receive the judgments of those interested.

THE MOUNTAINS OF THE KARAKORAM: A DEFENCE OF THE EXISTING NOMENCLATURE

By COLONEL SIR SIDNEY BURRARD, F.R.S.

THE Survey of India has recently published a report by Major Kenneth Mason, R.E., on his exploration of the Shaksgam Valley, a valley situated to the north-east of the Karakoram Range. Incorporated with his report are proposals to make fundamental changes in the nomenclature of the Karakoram region. I ask to be allowed to explain my reasons for preferring our old inherited nomenclature to that now proposed.

The area triangulated by the Survey of India has included the two highest mountain ranges of the world. By good fortune two names of distinction have been handed down to us, a Sanskrit name Himalaya for the Indian range, and a Mongol (Turki) name for the range of Western Tibet. To appreciate this good fortune we have only to consider how many mountains in Asia are without names, and how many are named only snow mountain. Geographers had to name the range on the east of the Pamirs the Kashgar Range from a city in the plains, because it had no name of its own. The two different ranges of mountains that follow the two coasts of India have the same name, the undistinctive one of Ghats. If moreover we look at maps of continents where mountain names have had to be invented, we realize the value of two such names as Himalaya and Karakoram.

The following table will show the names now in use for the mountains of Western Tibet and Mason's new proposals:

	<i>Existing Names.</i>	<i>Names now proposed.</i>
The Main Range	Karakoram	Muztagh-Karakoram
The Mountain Region . .	Karakoram	Karakoram-Himalaya
Outer subsidiary range . .	Aghil	Aghil-Karakoram
Inner subsidiary range . .	Kailas	Kailas-Karakoram

Mason's proposed names are too long for the purposes of science or of schools. Amid the confusion of his double names one serious proposal is partially hidden. The name of the second highest range upon the Earth has for fifty years been Karakoram: its primary name is now to be made Muztagh. The preface to Mason's book states that the second name of the proposed compound "is merely a concession." The change of this important geographical name from Karakoram to Muztagh would be most regrettable.

The Geographical History of the name Karakoram

Sixty years ago there was a question concerning the better name for the great range, whether it should be Karakoram or Muztagh. The name Karakoram was chosen by men well qualified to judge. Mason is now raising the same question again, and is basing his proposal to change the accepted name upon inferences he has drawn from history. Mason's explanation of the entrance of the name Karakoram into historical geography is, in his own words, as follows: "It is first of all Moorcroft's misapprehension and then a misunderstanding of Hayward's intention, and of the observations of Montgomerie, of the Survey of India, that has led European geographers to use the term Karakoram Range as it is at present applied."

This statement astonished me. To the best of my belief the European geographers rely upon the maps of the Survey of India for the geographical data of Western Tibet. The surveys of Kashmir and Karakoram under Major Montgomerie, R.E. (1855-1865), opened a new geographical era in those countries. These surveys were carried out under the Great Trigonometrical Survey of India, and the maps were drawn in the Headquarters Office at Dehra Dun. When the drawing had been completed, the maps were sent to London to be engraved at the India Office.

General Walker was the Superintendent of the Survey at Dehra Dun, and Sir Clements Markham was the geographer at the India Office. Major Montgomerie's survey party used to winter at Dehra Dun, so that Montgomerie was in touch with Walker. The Dehra Dun Office worked harmoniously with the map office in London: General Walker and Sir C. Markham were cousins and in constant correspondence.

The dates of the principal events in the history of the Karakoram maps were approximately as follows:

- Before 1820 Moorcroft's explorations.
- 1853-1854 . . Explorations in Ladakh of Major Alec Cunningham, R.E.
- 1855-1865 . . The triangulation of Kashmir and West Tibet by Montgomerie, and the topographical surveys of Godwin-Austen.

- 1866-1869 . . Fair drawing of Montgomerie's and Godwin-Austen's maps at Dehra Dun under Walker.
- 1868-1872 . . Publication of the maps at the India Office by Markham.
- 1876-1878 . . Preparation of Montgomerie's triangulation charts in the computing office at Dehra Dun.
- 1879 . . . Publication at Dehra Dun by Walker of Montgomerie's triangulation.

Moorcroft was the first explorer to apply the name Karakoram to the great range of mountains which separates the Indus and the Tarim basins.

In 1854 Major Alec Cunningham, R.E., gained a remarkable insight into the mountain systems of Western Tibet. His analysis of the ranges is described by Markham in his 'History of the Indian Surveys.' He traced the Karakoram Range with surprising accuracy from the sources of the Gilgit River to the source of the Shyok. Cunningham applied the name in 1854, just as we are applying it to-day. It was Cunningham's exploration that led Montgomerie to use the letter K in his angle book for the distant peaks on his Karakoram horizon, when he was observing them from Kashmir. His use of the letter K is well known in history from his discovery of the second highest peak in the world, which still bears his symbol K₂.

In 1870 Hayward the explorer prepared a map which he headed "The Karakoram Range." I have not seen his report, which Mason thinks has been misunderstood, but I know his map; he depicts the Karakoram Mountains and writes clearly across them "Muztagh or Karakoram."

When in 1872 Montgomerie's new maps were eventually published by the India Office, no name had been given upon them to the great mountain system. The omission was intentional, and it shows that there was some uncertainty and hesitation. That Montgomerie was aware of the name Muztagh is certain, for Godwin-Austen, his assistant, had published papers, "On the Glaciers of the Muztagh Range," in 1861 and 1864. Why did they not adopt this name Muztagh? I can only think of one possible reason, the same reason that led Colonel Wauhope to reject it forty years later, namely, that in the opinion of linguists the word Muztagh is not a name but an ordinary noun of the Baltistan vocabulary denoting "snow-mountain."

In the Himalayas on an autumn morning the hill-man will greet us: "The snow mountains are clear to-day." He will not say, "The Himalayas are clear." And when we meet a European, he will also say, "Are not the snows beautiful?" He will not say that the Himalayas are beautiful. And so the Karakoram villager will say just as others do, but in his own tongue, "Muztagh."

But while Montgomerie and General Walker at Dehra Dun were rejecting Muztagh, they were hesitating to adopt Karakoram. In his survey report of 1860 Montgomerie had referred to the "Karakoram Ridge" and to the "Karakoram Mountains," and in 1861 he had mentioned "the great Range which is called both Muztagh and Karakoram." When was the name Karakoram finally and definitely accepted by the Survey? About 1876 the computing office began to prepare Montgomerie's charts of triangulation, whilst he himself was in Dehra training the explorers for Tibet. The computing office seems to have pressed Walker for a decision, for the name Karakoram was finally adopted upon these charts. These charts, which formed the basis

of future mapping, were published in 1877, and the name Karakoram was written across them. From the triangulation charts the name passed gradually through the drawing-offices to the geographical maps, and since 1880 the maps of the Government of India have been telling the geographers of Europe and America that the great range is named Karakoram. At the India Office Sir Clements Markham showed less hesitation than his colleagues at Dehra Dun, for he adopted the name in his 'History of the Indian Surveys' (1871 and 1878), and on his map in this book he showed the Karakoram Mountains as we do now. And so it will be seen, if my interpretation of history is at all correct, that so far from the name Karakoram having slipped into geography through series of mistakes, it was accepted only after years of deliberation by men who were amongst the foremost geographers of the age, and who possessed an intimate knowledge of the mountain system under discussion.

The questions however still arise: Why had Montgomerie and Walker been hesitating so long? If the name Karakoram was accepted for the charts in 1876, why was it not accepted in 1870 in time for entry upon Montgomerie's maps?*

Before I consider these questions, I should like to refer briefly to the further objections to the name Karakoram which have been raised by Mason.

Mason refers to the use made by Montgomerie of the symbol K for the Karakoram peaks. He thinks that "though Montgomerie did not believe for a moment that the peaks he labelled K were all on a single range," as K_1 and K_6 are not on the main alignment, the system has led to a misunderstanding. Mason adds, "I certainly believe that the naming of K_2 has influenced geographers in retaining the name Karakoram for the single range." In my opinion geographers take their geography of Baltistan from the maps of the Survey, and the Survey has been under no misapprehension about the symbol K. It has been the usual practice for our observers to employ a single letter as a symbol. Montgomerie followed the same course as had proved successful in the Himalaya. His observations were interpreted by the same expert computing office as had calculated the height of Mount Everest.

As I have referred frequently to Colonel Montgomerie, I feel it a duty to record that he did not live to succeed General Walker as Superintendent. His original strength had been sapped by eleven successive seasons of mountain-climbing, and he died in 1878, at the age of forty-seven.

The question of the Karakoram Pass

Another objection raised by Mason to the name Karakoram is that there is a pass known as the Karakoram Pass, and that this pass is not on the main range. The existence of this pass was well known to Montgomerie, to Walker, and to Markham. It has been well known in the drawing office since the 'sixties. Mason does not like the repetition of the same name on both a range and a pass, and he believes (in his own words) "that on maps the Karakoram

*The name Karakoram Mts. does however appear on the map "Turkestan with the adjoining portions of British, Russian, and Native Territories" on the scale 32 miles to the inch, published by General Walker at Dehra Dun in May 1873. The name lies between longitudes $77^{\circ} 30'$ and $79^{\circ} 40' E.$, that is, mostly to the east of the Karakoram Pass. This is the 2nd Edition: the first is not in our collection. The name was removed in subsequent editions, 1875 onwards.—ED. G. J.

Range has been made to bend out of its normal alignment, almost to due east, in order to include the pass" (p. 79), because the pass bears the name Karakoram.

May I explain why the range has been made to bend out of its normal alignment? It is simply this: the drawing office took the main watershed of the Indus to be the range. The highest peaks are on this watershed, but farther to the south-east the watershed bends back and curves round through the Karakoram Pass. The watershed would have done this, whatever name had been given to the pass.

When a mountain map is only showing the drainage lines, the watersheds appear to be the main ranges. I have heard the drawing office stoutly maintain that the only ranges which matter are the main watersheds. The difficulties of hill-shading when the drainage has cut back behind ranges have been very great. It is probable that the inhabitants and the Central Asian traders have the same idea of the main range as our drawing office had, namely that it is the watershed. If they have ever considered the question at all, they would probably argue that the Karakoram pass is on the Karakoram range, because they have to climb over that pass to get from one side of the range to the other. Cannot we regard this Karakoram Pass as the entrance door from Yarkand into the Karakoram region? The objection to its name would then disappear.

Moreover, before we can reject the name Karakoram because of its duplication on a pass, we must remember that the proposed alternative Muztagh is repeated in many places. The late Colonel Wauhope, who explored the Pamirs and the Hindu Kush, wrote in 1906, "Muztaghs are as common all over Central Asia as Safed Kohs (white mountains) are on our north-west frontier. The name Karakoram is quite established now for the mountain ranges separating the Indus and the Zarafshan and is the most suitable."*

The high peak described by Sven Hedin is named Muztagh Ata (father of snow mountains) and is not on the Karakoram but on a range farther north which Hedin calls the Muztagh range. Sir Aurel Stein found the name Muztagh in the Kuen Lun range, and Semenov found it in the Tian Shan.

The derivation of the word Karakoram

In the opening paragraph of Mason's book he writes:

"The name Karakoram means 'black gravel,' and this inappropriate name has been restricted by geographers to the whitest, iciest range of mountains outside the polar regions. It seems a pity; for to call black white and white black impresses nobody with our sense of sagacity."

May I say a few words on behalf of our predecessors? There is a belt of perpetual snow broken only by gorges stretching from Sikkim to the Pamirs, and within this belt it is desirable to avoid the name "snow mountain." Mason compares Tibet with the polar regions, but the name "snow mountain" would not be distinctive in the polar regions. Like Mason I have believed, and our predecessors believed, that the Turki word "Karakoram" meant "black gravel." But now that this meaning has been put forward as a reason

*'Geography and Geology of Himalaya Mountains and Tibet,' by Burrard and Hayden (1907), page 97.

for changing nomenclature, I have thought it advisable to verify it. In Shaw's Turki dictionary the following meaning is given :

Kara	Black.
Koram	Ground covered by large blocks of stone fallen from mountains.

I cannot fairly use this latter meaning against Mason, as it is quite new to me. But what Mason has disliked is the word "black," and this word must remain in any translation. The word "black," however, is common in geography, and generally means angry, or stormy, or dangerous. There is the Black Sea and the Black Forest, and in India the people call the ocean the Black Water. In all such cases our forerunners who initiated the names were looking deeper than the surface colour. To call a white mountain black is only absurd if we cannot look deeper than its snow; but if we look into its character and think of its thunderstorms and avalanches, we understand the mind of the people who called it black.

And before this old name Karakoram is set aside on account of its derivation, we should consider whether it may not have originated in quite another way. Peoples sometimes borrow names from outside; in London we have borrowed Waterloo and Trafalgar. The English carried their names Boston and Hampshire to America; the Scotch took Perth to Australia. In the thirteenth century the Asiatic empire of Genghis Khan reached from Peking to Warsaw; its capital city was Karakoram in Mongolia. The name Karakoram was known everywhere. The immense armies of Genghis Khan, always living on the country they traversed, were in possession of the Yarkand area for a century. They reached India through the Kuram valley, and finding the heat of Lahore unbearable, they tried to get back to their home at Karakoram by way of Kashmir. Their armies were however too large, their horses too numerous, and they found their way "blocked by the massifs of impenetrable ranges."* Is it not possible that Genghis Khan's army to whom Karakoram was the centre of the world brought this name into Western Tibet? Is it not possible that some of his soldiers, wearied with years of war, took the opportunity of escaping from military service and stayed behind in Tibet, when the army had to retire from the mountains in confusion?

Genghis Khan of Karakoram was an ancestor of the Mogul emperors of Delhi. The Karakoram mountains standing between India and Mongolia thus form a monument to the two Mogul empires of Asia. And at the summit of the Mogul monument we see Montgomerie's flag, the mystic symbol K₂, more popular now throughout the continents than any name; it is the symbol of geographical triumph, and it memorizes the alliance of many races of men, British and Indian, Pathan and Kashmiri, Ladakhi, Balti and Tibetan, in a long-united endeavour (1855 to 1865) to lay bare the secrets of the formidable mountain barrier.

The name of the Mountain Region

It is now proposed to change the name of the mountain region. Hitherto the names of the region and of the great range have been the same, namely,

*Lamb's 'Life of Genghis Khan,' page 186.

Karakoram. It is now proposed to name the region Karakoram-Himalaya and the range Muztagh-Karakoram. It has, I think, been a common practice in geography to apply one and the same name to a mountain region and to its main range. We speak of "the Himalayan region" and of "the main Himalayan range." We also use the plurals Himalayas and Himalaya mountains to denote the whole region. The region and the plural include the whole complex mass of main and subsidiary ranges, outliers, spurs, and foothills. We do not, I think, require different names for the mountains and for the highest range.

From a scientific point of view also it is, I think, inadvisable to emphasize too strongly the difference between the range and the mountains. Although the range may be crowned by a crest-line of high peaks, its walls and buttresses and foundations are part of the mountain mass. As for the newly proposed name Karakoram-Himalaya, it is distressing to see the Sanskrit name Himalaya applied to the Mongol region. The name Himalaya is reserved for the mountain ranges forming the southern wall and buttresses of the Tibet plateau; it is not taken by surveyors into Tibet across the Tsangpo or Indus. On Mason's map the Yarkand river is shown in a Himalayan region; and the incongruity is striking.

The Kailas Range

This range is a secondary range of the Karakoram system on the southwestern flank. Mason proposes to change its name from Kailas to Kailas-Karakoram.

Major Alec Cunningham was the first explorer to describe this range, and when he explored it, in 1854, it was nameless. Cunningham thought that as the sacred peak of Kailas was standing on the prolongation of this range it would fix the range in geography to name it the Kailas Range. Mason puts forward a different view. He regards this range as being more in "unity" with the "parallel Karakoram Range" than it is with Kailas peak (p. 75). He proposes to add the name Karakoram to the old name Kailas and to call it the Kailas-Karakoram range, as this "would bind the individual ranges together in a lateral sense," and make clear "their essential unity." The difference between Cunningham and Mason depends on the word "unity." Cunningham did not use the word, but he evidently regarded the unity of a range to lie in its succession of high points marking its alignment, for he called it Kailas, because the Kailas peak was on its distant prolongation. Mason writes of "its unity with the ranges to the north." Cunningham was thinking of geographical unity and Mason is implying geological unity. In my opinion the former is the sounder basis for a geographical name than the latter. Similarly the simple name Aghil seems preferable to the proposed compound Aghil-Karakoram: the former is clear, the latter obscure.

The problems of nomenclature in a desolate country are different from those of populated areas. In the outer Himalaya the local names are numerous, but as we enter the mountains the names become scarcer, until on the Tibet border the passes are the only features named. In the lower hills the inhabitants have furnished all the names that geography requires, but at higher altitudes the requirements of geography are not satisfied by the few local

designations in use. In recent times explorers have told me that they have taken vague names off the land in Tibet and have applied them to unnamed prominent peaks, a course I believe to be wise.

The inhabitants of Baltistan had always been content with a scanty nomenclature, but when the peak of K_2 was discovered in their midst, their country became a focus of geographical interest. Throughout their mountainous region only one proper mountain name (apart from a few snow peaks) had been forthcoming, and that was Karakoram. This name was probably not a precise designation amongst the Baltis; otherwise there would have been no uncertainty. But indefinite as it was, it had been found floating over the hills for fifty years; Moorcroft heard it in 1820, Cunningham in 1854, Hayward in 1870. Eventually Montgomerie took this local name and attached it to the highest mountains of the country.

Montgomerie's orders had been "to survey the territories of the Maharajah of Kashmir," and he had consequently had to stop his work at the crest-line of the great range. He knew nothing of what was beyond. He may have thought that peaks higher than K_2 might be standing behind. Furthermore, he may not have wished to define the valuable name Karakoram, until he knew to what extent it was employed on the farther side of the crest-line. It seems to me possible that Montgomerie may have hesitated until he had obtained information concerning the hinterland. The final responsibility for introducing the name Karakoram into geography rests, however, upon Montgomerie's two chiefs, General Walker and Sir Clements Markham. It is only fair to their memory to admit that their decision to adopt the name has been a benefit to science and has caused no inconvenience to the Baltis.

In the *Encyclopædia Britannica*, 1883 (Tibet), Sir Richard Strachey wrote that the name Kuen Lun was introduced by Humboldt, and that "this designation is not locally known." In 1929 the name Kuen Lun is firmly established in geography, and the claims of Karakoram are even stronger. The name Kuen Lun is an international possession, but that of Karakoram is in British keeping. It is easy to change and to modify an old name, but we cannot create an old tradition. The value of traditions to a Survey and to geography is inestimable; their growth has been due to the continued cooperation of successive generations of men, and if we can preserve the traditions that come down to us, we shall leave them to our successors with their values enhanced.