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# The Kun Lun Shan: Desert Peaks of Central Asia

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(Plates 29, 30, 32)

The gaunt, bare backbone of the Kun Lun range runs for 2250km from the Russian Pamir to western China over 30 degrees of longitude. Older than the Himalaya, it separates the plateaux of the Pamir and Tibet from the deserts of Central Asia, and it is one of the longest and least known of the world's mountain ranges, with peaks up to 7700m.<sup>4,8,17,22,51</sup>

At its western end it is joined by the Tien Shan (Celestial Mountains) that forms the northern border of the Tarim Basin, in which lies the Takla Makan desert, and in this angle is the strategic oasis city of Kashgar (Kashi).<sup>11,29,36,59</sup> Here four arms of the Silk Route meet: one from the Indian sub-continent to the south, two from China to the east, by the north and south rims of the Tarim, and one from Europe to the west. The Silk Route is the world's oldest, longest and most important land-route, linking the civilizations of the Mediterranean with those of China and India, and for more than 5000 years it has been a conduit for ideas, religion, culture, disease, invasion and trade.<sup>10</sup>

The Kun Lun's western portion separates the Pamir and the Central Asian plateau from the Takla Makan desert and the Lop Nur.<sup>61</sup> At 80°E it splits into two, the northern portion becoming the Altyn Tagh, while the southern continues as the East Kun Lun, ending in the Amne Machin group. Between these two arms lies the Tsaidam Basin.<sup>53</sup> It is crossed by four main highways: through the West Kun Lun by the Gez Gorge, between Chakragil and the Kongur massif; through the Central Kun Lun, which continues as the road around the south rim of the Tibet plateau; through the East Kun Lun by the Kun Lun Pass (4772m); and by a route west of the Amne Machin group. It also has numerous passes. Because of their great altitude, and the constant stream of travellers from the Middle East, the steppes of Central Asia, Tibet, China and India which has crossed them, it is not surprising that the first account of mountain sickness should have come from Chinese sources in 37–32 BC:

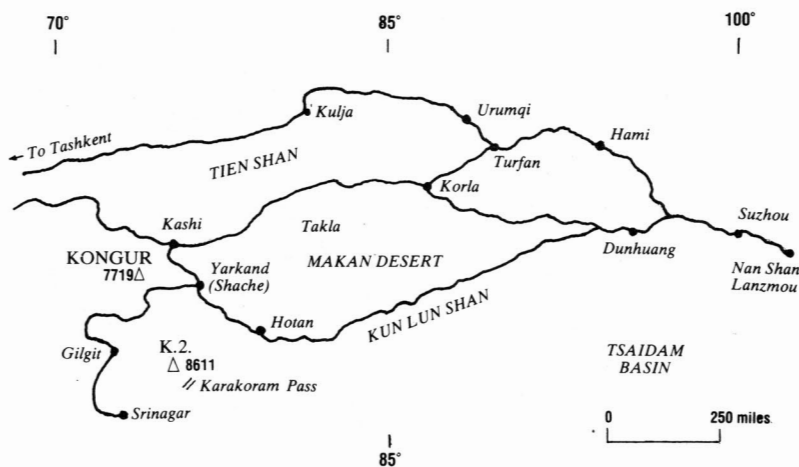
In the time of the Emperor Ching-Te (37–32 BC), Ke-Pin [possibly Afghanistan] again sent an envoy with offerings and an acknowledgement of guilt. The supreme board wished to send an envoy with a reply to escort the Ke-Pin envoy home. Tookim [a Chinese official] addressed the Generalissimo Wang Fung to the following effect . . . 'From Pe-Shan [south-east of Yarkand] southwards there are four to five kingdoms not attached to China. The Chinese Commission will in such circumstances be left to starve among the hills and valleys. Again on passing the Great Headache Mountain,

the Little Headache Mountain, the Red Land, and the Fever Slope men's bodies become feverish, they lose colour, and are attacked with headache and vomiting. The asses and cattle being all in like condition.<sup>58</sup>

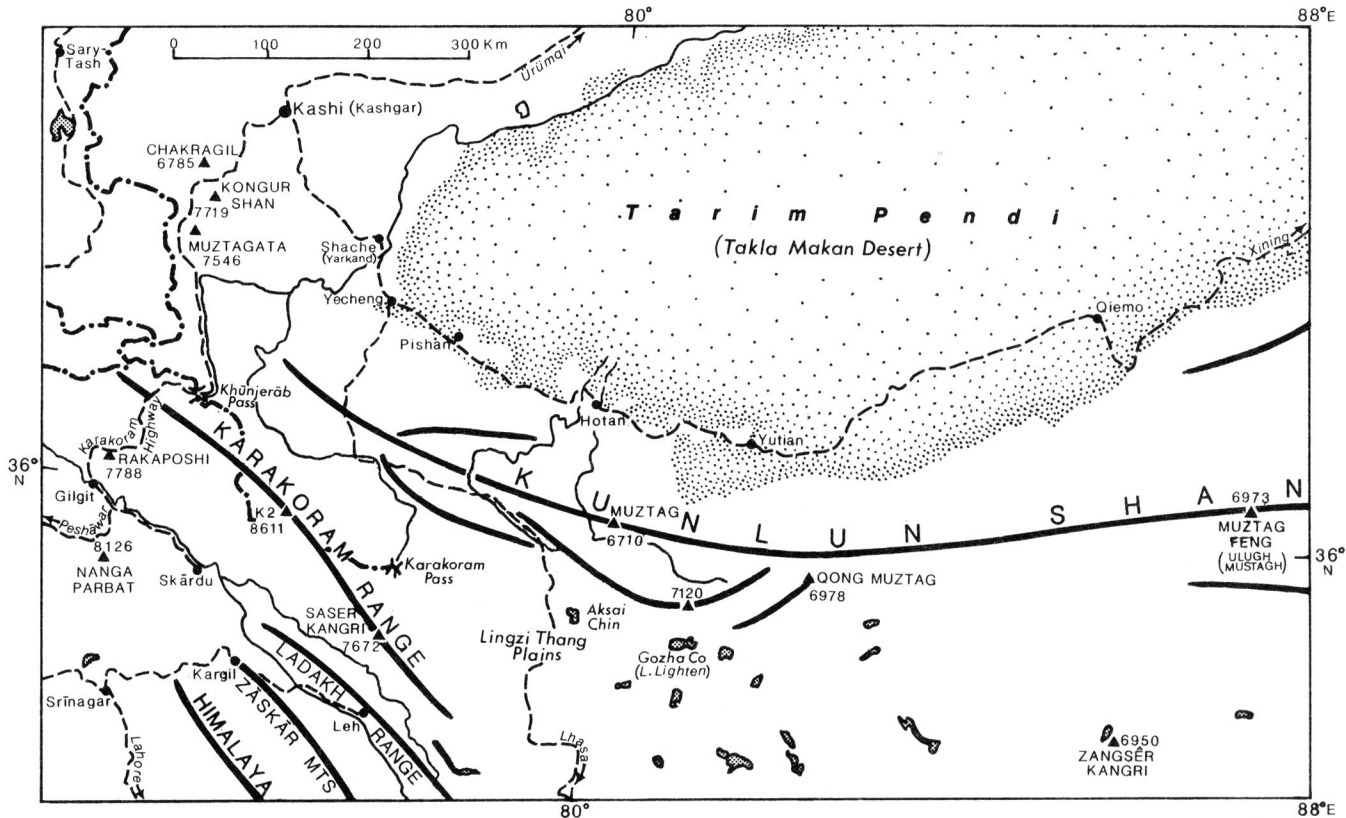
A later Chinese traveller, Fa-Hsien (399–414 AD), gives a description of a companion who died after foaming at the mouth on a mountain pass in this region, quite possibly a case of high-altitude pulmonary oedema.<sup>12</sup> The identity and position of these mountains and passes is not known, though there has been speculation in medical journals. Joseph Needham, in his magisterial work *Science and Civilization in China*, suggests that the occurrence of mountain sickness and its complications may have been taken by the Chinese as a sign for them not to transgress their natural boundaries.

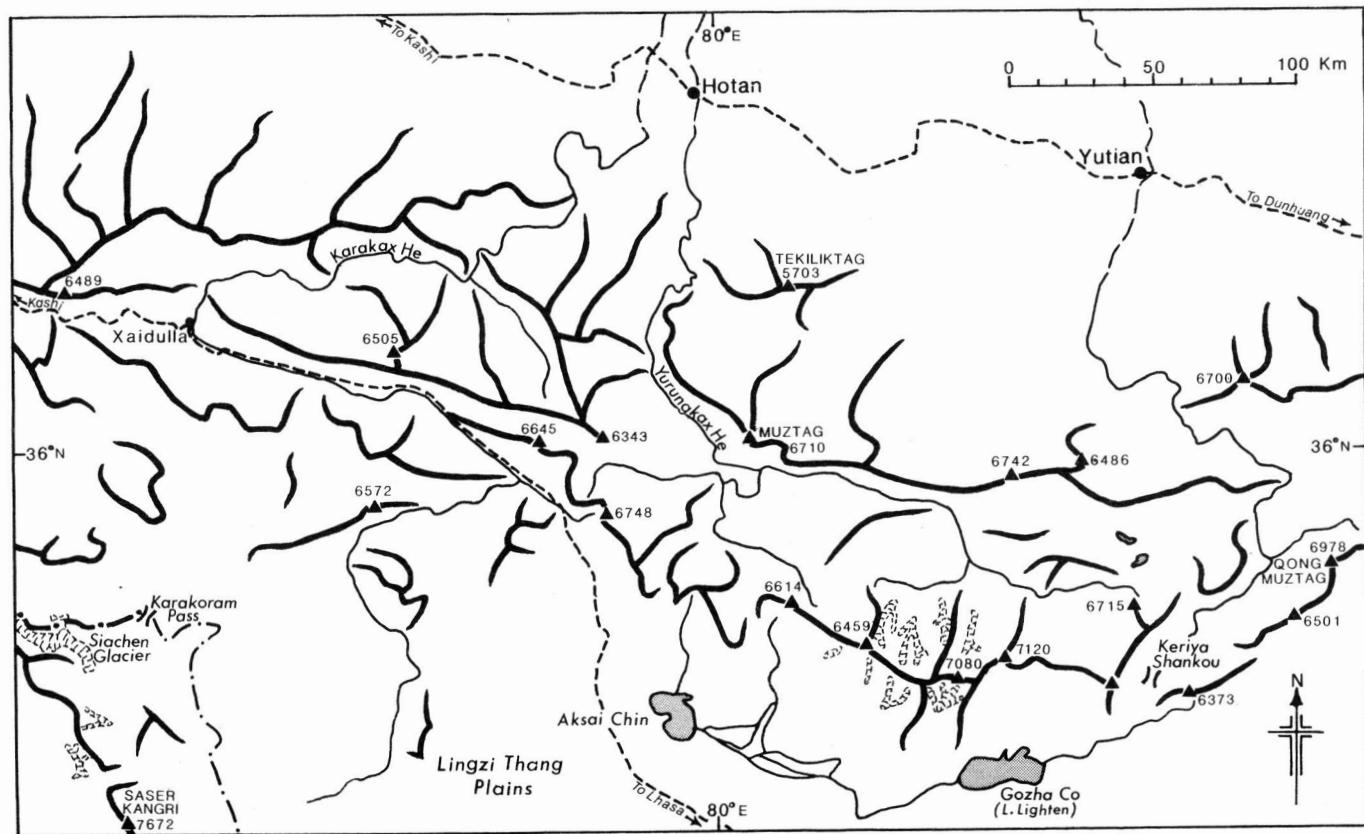
Of the early European travellers in the region, Aurel Stein probably knew the Kun Lun better than any other, and during three expeditions in 1900–01, 1906–08 and 1913–15 he made many of the original European maps and gave topographical descriptions which have served as a basis for knowledge of the area.<sup>40,41,43</sup> Other early travellers included Bonvalot,<sup>3</sup> Hedin,<sup>14,15,16</sup> Deasy,<sup>6,7</sup> Rawling,<sup>31</sup> Forsyth,<sup>9</sup> Littledale,<sup>21</sup> the Pandits,<sup>1,52</sup> Carey,<sup>20</sup> Dalgleish,<sup>20</sup> Prejevalsky<sup>30</sup> and Ney Elias.<sup>26</sup> It was in the Central Kun Lun, too, that in 1865 Johnson – an extremely able surveyor from the Survey of India – claimed, honestly but mistakenly, that he had ascended peak E61, 7300m, which at that time was thought to be the greatest altitude to have been achieved on a mountain on foot. The arguments against his having done so may be found in articles by Mason and Stein in the *Alpine Journal*.<sup>23,42</sup> The exact site of this peak is not clear, though it might have been Muztag (6710m).

Most recently, Chinese geological and topographical survey parties have visited all parts of the range. In particular, the Burhan Budai section of the East



SINKIANG (CHINESE TURKESTAN) AND KUN LUN SHAN  
SHOWING MAJOR SECTIONS OF THE EASTERN PART  
OF THE SILK ROUTE





Kun Lun was visited by a Royal Society party in 1985<sup>45</sup> and extensive geological mapping was carried out, based on topographical surveys and Landsat Imagery. Mountaineering parties, too, have been exploring and climbing in the region for the last 100 years and some groups of peaks, particularly in the west, are relatively well known. Kongur (7719m), the highest peak, was climbed in 1981,<sup>2,54,55</sup> while Amne Machin was climbed in the early 1960s,<sup>29</sup> although the highest summit was only ascended in 1981.<sup>48</sup> Ulugh Muztagh (6987m) (Muztagh Feng) had its first ascent in 1985.<sup>25</sup>

For the purpose of description, the range will be divided into four portions: the West, Central and East-Kun Lun, and the Amne Machin Shan.

### West Kun Lun

This extends from 74°E to 78°E and includes the Chakragil group, the Kongur massif, Muztagh Ata, and the Shiwakte and Tigurman groups.

Lying close to the northern portion of the Karakoram Highway, the main route from Kashgar (Kashi) to the Indian sub-continent, this area has been visited by many people, particularly in the late 19th century, the era of the 'Great Game'. Initially, considerable confusion was caused by the inability of the early travellers to identify the highest peak, Kongur (7719m).<sup>9,26,49,50,54,55</sup>

It is the best-known of the three main parts of the Kun Lun, and climbing parties are increasingly visiting the area because of its ease of access.

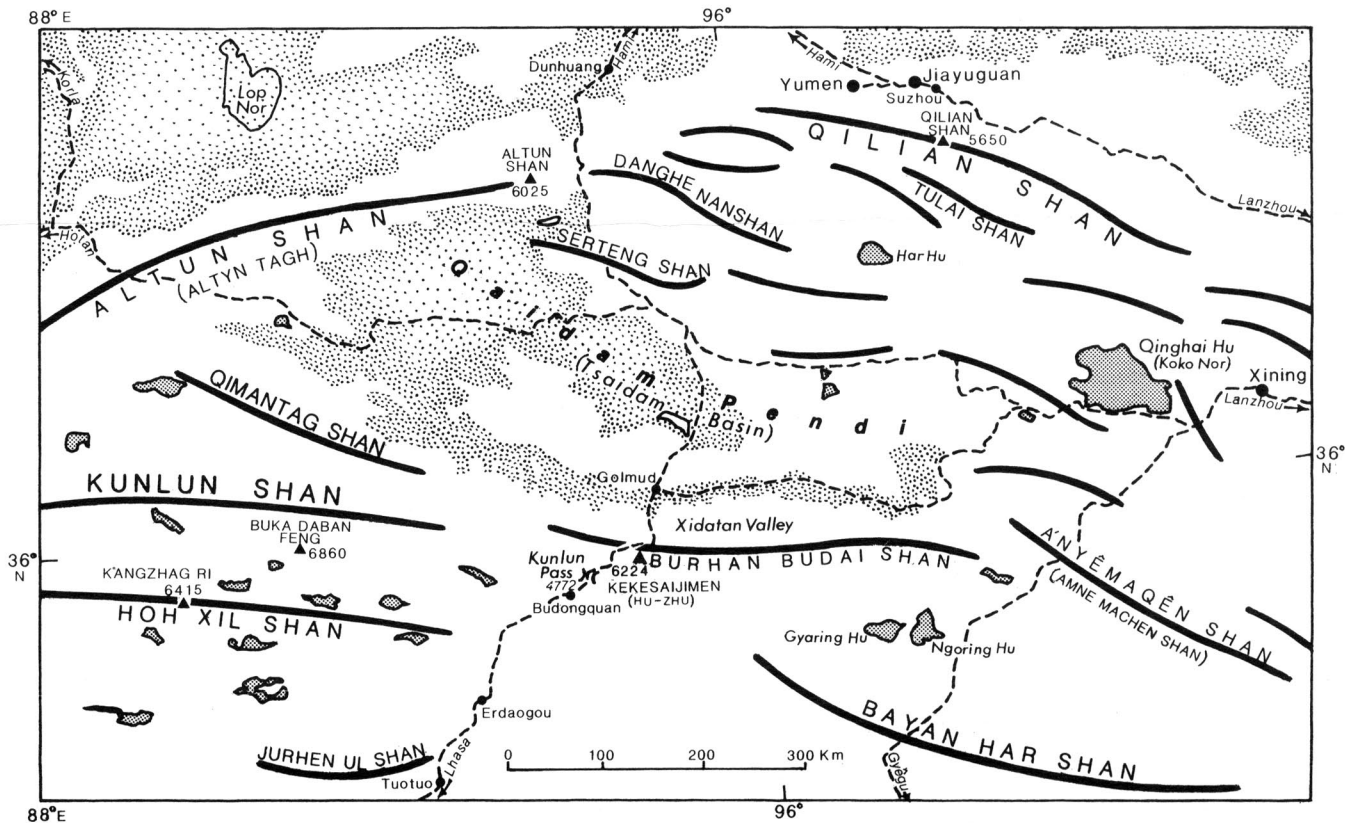
The Chakragil peaks, 6700m and 6500m, lie to the north and west of the Gez Gorge, along which the Karakoram Highway passes. The glaciers of the N side form the Chikir Jilcha; an early attempt was made from the N side by Shipton and Tilman, and their route did not appear to be too difficult.<sup>37,46,47</sup> The S side of the group, with a number of small glaciers, can be clearly seen from the Bulun Kul valley, in which there are nomadic settlements.

The Kongur massif consists of two main peaks, Kongur and Kongur Tiube, both of which have been climbed. A full account of the history of the exploration of the area has been given in a number of books and journals listed in the references.<sup>2,26,54,55</sup>

There are several subsidiary peaks, notably the 'Gez Matterhorn' (6600m) on the N side, which would be a good objective. Good lines can be seen on the N wall of the Kongur-Kongur Tiube ridge too; these would give excellent and serious routes of a high standard. On the S side of Kongur there is a considerable number of peaks up to 6500m which would be worth attempting, and some of the lower ones have already been climbed. Routes on the S and E faces of the massif could be made, and a subsidiary peak on the E side was climbed in 1980.

The Shiwakte and Tigurman groups lie east of Kongur; the area was visited and mapped by Skrine.<sup>38,39</sup> It appears to be most easily approached from the east by the Qaratash Gorge.

To the north the Tigurman group, with peaks up to 5500m, lies around the Tigurman glacier. It is possible that this glacier could be approached from the west, over a col at the head of the Qurghan glacier which drains the E face of Kongur and runs towards Gez Qaraul and the Gez Gorge.





28. *Peak 6104m to the E of the Tanggula Pass, Central Tibet. (p 82)*



29. *On the shore of Gozha Co (Lake Lighten), 1906-08. (p 84)*



30. *Burhan Budai range, Kekesajjimen (6179m) and the Xidatan valley, from the W. (p 84)*



31. *Namcha Barwa, Gyela Peri and Namla Karpo from the N (SE Tibet).*





32. *Landsat photograph of part of N Tibet, showing in R lower part the Burhan Budai range, with Xidatan valley to N. The photograph of Kekesaijimen (plate 30) was taken from the clearly shown gap between E Kun Lun and Burhan Budai. (p 84)*

The Shiwakte group, with peaks up to 6000m, lies around the Kaying and Torbashi glaciers. From the head of the Kaying glacier, a pass can be crossed in a southerly direction which leads to the Chimghan Jilgha that joins the Qaratash river.

To the east of these two groups, and east of the Qaratash river, is the unknown Qhijag group of mountains.

Muztagh Ata (7433m) is an outstanding and much photographed cone-shaped mountain rising close to the Karakoram Highway, near the Karakul lakes which are considered to be one of the most beautiful viewpoints in Central Asia. The first attempt on the summit was made by the Swedish traveller Sven Hedin, who rode from the west up to about 5800m on a yak.<sup>13,14</sup> There have been a number of successful ascents since then, the first in 1956 by a Russian-Chinese party, and the N peak has been climbed.<sup>2,18,19,54,55</sup> A successful ski-descent has also been made.<sup>5</sup> The W side of this peak is well known, but there is great scope for routes on the other sides which remain unvisited. The peak, being so close to the Karakoram Highway, has become popular.

The mountains between Muztagh Ata and the first sizeable peak (6200m) in the Central Kun Lun, at 77°30'E, 36°30'N, rise to around 5800m.

### Central Kun Lun (77°30' to 82°E)

The Central Kun Lun is divided into two parallel ranges by the river valleys of the Karakash (Karakax He) and Yurung Kash (Yurung Kax He). The northern portion continues in a north-easterly direction and changes its name to the Altyn Tagh, whilst the southern runs east and peters out in northern Tibet.

The Karakash river rises in the peaks of the Aksai Chin and initially runs west, being joined by the route from the Karakoram Pass (5500m). From near this junction Stein, on his 1906-08 expedition, climbed from the Karakash river up the southern side of what he described as the main range of the Kun Lun, reaching a snow col at 6000m. From here he was able to take a panoramic photograph, including peaks in all directions except to the east and north-east. All those peaks appeared to be heavily glaciated.<sup>40,41</sup>

The Karakash breaks through the northern more continuous line of the Kun Lun at Xaidulla (Saltula) and continues north and east to Khotan (Hotan).

The Yurung Kash river rises to the east of the Aksai Chin from a cirque of heavily glaciated peaks at 81°E 36°N. According to Stein, they were 'all clad with glaciers more extensive than any I had seen in the Kun Lun'. These glacier sources were visited by Stein in 1906-08 and, from a survey point at around 5300m, he was able to take a complete panorama of the peaks from which these glaciers rise.<sup>40,41</sup> There is one particularly large glacier, almost a mini ice-cap, which feeds the eastern headwaters of the Yurung Kash. Stein also observed that, whereas on the northern slopes of the main range the snowline descended to approximately 5300m, on the southern slopes it was 600m higher. This is the highest group of peaks in the Central Kun Lun and the highest, 7120m, is marked on the ONC map at 81°10'E, 35°22'N.

To the south of this group is Lake Lighten (Gozha Co), 5200m. Photographs of the peaks around this lake can be found in Sven Hedin's many-

volume work on South Tibet.<sup>16</sup> To the east, again, is another group of peaks up to nearly 7000m.

The Yurung Kash runs west to start with, but then turns north to break through the main Kun Lun at 80°E, 36°N. It continues north to Khotan (Hotan), joins the Karakash river and traverses the Takla Makan desert to Aksu.

Where the Yurung Kash breaks through the Kun Lun, a peak (7200m) is marked on Stein's map. However, the ONC map gives a height of 6500m. A photo of this peak, K<sub>5</sub>, may be found in Stein's *Memoirs and Mountain Panoramas*,<sup>40,43</sup> and it is probably Muztag (6710m);

The panoramic photographs which Stein took from six different stations show the northern aspects of a considerable number of peaks of 6000m and above. No doubt both the heights and the names that he gave them have now been revised by Chinese geographers.<sup>40</sup>

Between the valleys formed by the Yurung Kash and Karakash rivers, there is a group of peaks clustered around a glacier named Otrughul by Stein.<sup>41</sup> A recent Chinese map (1:2,000,000) of the glaciated regions of Central Asia confirms that this region of the Central Kun Lun is the most heavily glaciated of the whole range.

### East Kun Lun

The East Kun Lun branches off the Altyn Tagh at 86°E. The northern limb – the Altyn Tagh – continues, dividing the deserts and swamps of the Lop Nur and Kansu corridor from the Tsaidam Basin.

The southern limb, the East Kun Lun, becomes a discontinuous range that runs due east. There is a group of peaks at about 87°E which include Ulugh Muztagh (6987m), Kangzhag Ri (6415m) and Buka Daban Feng and, at 89°E, Xinqing (6860m), the highest peak in Qinghai Province. On the southern, plateau side of this range there are numerous lakes between 88°E and 93°E.<sup>27</sup>

Ulugh Muztagh was climbed for the first time in 1985 by a Sino-American party, along its E ridge.<sup>25</sup> Its altitude was computed to within a few metres, and geological work extended that carried out on the Royal Society-Chinese Academy of Science's Tibet Geotraverse in the same year, 1985.<sup>45</sup> The conjecture that the mountain might be a volcano was disproved.

At 92°E the East Kun Lun becomes a continuous ridge with an altitude of about 5500m, plus an occasional higher bump, and at 94°E it is called the Burhan Budai Shan, or Angirtaksia in some of the older maps.<sup>1</sup>

The main highway between Xining and Lhasa, a centuries' old route traversed by the Jesuits, Pandits and others,<sup>1,52,57</sup> runs through the Kun Lun Pass (4772m) at the western end of the Burhan Budai. The most unusual feature of the range is the Xidatan valley, just to the north, which is about 5km wide and 100km long. Through its floor runs an earthquake fault, the Xidatan-Tuosuohu-Maqu fault. This has occurred because of the pressure exerted by the Indian sub-continent, which is travelling north and compressing, crushing and crumbling the earth's crust to such an extent that it is twice its normal thickness, forming the Tibetan plateau. This northward pressure has caused a split in the

crust, the Xidatan fault, and the Burhan Budai range has been split off from the rest of the East Kun Lun and is moving east at about 2cm each year, causing earthquakes. Because of the remoteness of the area, these have caused little or no loss of life, but are of considerable size.

The break between the main range of the East Kun Lun and the Burhan Budai is a wide shallow pass some 30km west of the Kun Lun Pass. From this pass it would be easy to walk up the snow-covered corries to the crest of the main range and traverse along as far as desired. If the snowfall is adequate – and this must be problematic because of the dry climate – a ski-traverse would be possible.

The main peak of the Burhan Budai is Kekesaijimen (6179m or 5989m), just east of the Kun Lun Pass. (This peak was called Hu Zhu in my *Alpine Journal* article in 1986.<sup>56</sup>)

It stands as a clear landmark, from north and south; and from both sides the glaciers, buttresses and couloirs are easily accessible from the road. The group of which this is the main peak has a number of summits of 5700m, and is bounded to the east by the Drovers' Route and on the west by the Kun Lun Pass.

The Drovers' Route starts from the Lhasa-Golmud Highway at the Surgang river, just by a cement works. It follows a circuitous route along valleys to the north of the Xidatan, and then through the Burhan Budai, with a peak (5548m) to the west, to gain access to the plateau. Herds of yaks, sheep, goats and camels take three to four days to travel from the Tsaidam to the plateau. It is a much-used route, just passable for lorries in dry conditions. There is a small, disused opencast coal-mine just before the route joins the Xidatan valley (here called the Dongdatan) from the north.

To the north of the Xidatan there is a maze of hills between 4800m and 5100m, many with rock-faces and ridges rising from dry valleys. Extensive and detailed geological maps were made of the Burhan Budai during the Royal Society-Chinese Academy of Science's Tibet Geotraverse, 1985.<sup>45</sup>

A series of roads passes through the range at 98°E, and the Amne Machin group starts at 100°E.

The Altyn Tagh (Nan Shan) range extends from 85°E and runs north-east. At this longitude there are a number of peaks around 6000m. The range then continues with lower peaks until the area south of Yumen-Suchow is reached, where there are ranges running south of east and more or less parallel to one another. These ranges are named the Qilian Shan, with a peak of 5650m, Tulai Shan, Serteng Shan, with a peak 5609m just north of the Ha La (Har) Hu (lake). East of this lake there is a peak 5650m.

The higher peaks in this region are snow-covered and the whole area is extremely dry, but forest growth towards the east indicates increased rainfall. Both Stein's<sup>40,41,43</sup> and Obrucheff's<sup>28</sup> books contain photographs of these ranges.

The **Amne Machin Shan** extends south and east of the Burhan Budai; it is enclosed on three sides (not the north-west) by the Hwang Ho (Hwang He), which rises from the Ngoring Hu on the Tibet plateau. It is possible that the first reference to these peaks in the European literature is to be found in Dutreuil de Rhin's book,<sup>32</sup> and the area was also visited by the Russian travellers

Roborovsky and Kozloff.<sup>44</sup> Roborovsky had a stroke in 1895 while crossing the Mangur Pass (4300m) in east Tibet, from which he recovered after eight days. This is the first recorded incidence in the literature of a vascular episode at high altitude, and it was due to a combination of dehydration and an increased number of red cells in the blood. The whole range was virtually unknown until the early 1930s.<sup>34,60</sup>

J F Rock made a number of journeys, particularly on the north and east side, and photographed the range, but he was not able to explore the mountains themselves.<sup>33</sup> Later, the range attained a degree of notoriety as it was thought that it might contain a peak as high as, or higher than, Everest. The highest peak is now called Magen Gangri (6268m) in Pin-Yin.<sup>27</sup> A Chinese party climbed the 'highest' point in 1960;<sup>29</sup> however, it was later shown that they had in fact climbed a point some way from the summit. Controversy remains over who made the first ascent in 1981. Many European parties have now visited the range.<sup>35,48</sup>

### Acknowledgements

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Information may also be obtained from the 'Area Notes' sections of the *Alpine Journal*, and the *American Alpine Journal*.