

THE LOCATION OF PTOLEMY'S STONE TOWER: THE CASE FOR SULAIMAN-TOO IN OSH

Riaz Dean

Wellington, New Zealand

In his famous *Geographia* Claudius Ptolemy (c. 90–168 CE) wrote about a location called the “Stone Tower” (*Lithinos Pyrgos* in Greek, *Turrus Lapidea* in Latin), which was considered the mid-point on the overland trade route taken by caravans between Europe and Asia. Since the late 19th century this “road” has been conveniently labeled “The Silk Road”. However, it is now well established that this name is somewhat misleading, as in fact the reality was a complex network of major and minor trade routes spanning a very large region. It also carried many goods other than silk and was the conduit for an exchange of ideas, religious beliefs, and cultures. The Stone Tower was a major landmark where, one must assume, travelers and caravans broke their often long and arduous journeys to rest, take on provisions, and trade goods before continuing on their next stage. Given the lack of precise information in Ptolemy’s work, various theories have been advanced as to its actual location. This article offers a new perspective on the problem, by introducing a set of criteria that this location would have needed to satisfy for the landmark to have become so prominent. Judging by these criteria, the most likely location of Ptolemy’s Stone Tower was the “Takt-e-Suleiman”

mountain, also known locally as “Sulaiman-Too”, which dominates the city of Osh in Kyrgyzstan.

Ptolemy locates the Stone Tower in the *Geographia* on his gradation system at 135°/43°, though in a preliminary discussion in Book I he also places it at longitude 132°, a discrepancy neither he nor anyone else has explained (Thomson 1948, p. 309)¹. Thus, at best, he has provided but an approximation of the location, despite the apparent precision of the indication in his text. The oldest reconstructions of his maps, whose originals have not been preserved, include the 1490 Rome edition. Its seventh map of Asia [Fig. 1] labels the tower at 135°/43° as *Turrus Lapidea Mons* (translated as: “Stone Tower Mountain”); and a little further east at 140° along the same latitude, places an *Oppidum sive praesidium eorum qui apud Seras proficiscitur* (translated as: “A guard post for those who travel among the Chinese”).

Ptolemy’s lack of precision can be explained by (i) the very basic methods of route surveying and map making employed during his era; and (ii) the manner in which he gathered his information. The first of these reasons requires little further elaboration. Ptolemy (Book I, Chapter 2) himself is explicit about the need for (but his lack of) the proper instruments for accurate mapping. Certainly in his time there could have been no use of a compass or sextant, and the ability accurately to determine longitude would have to await the 18th century. His information was ultimately derived from reports by travelers, where distances could be estimated only from elapsed travel times and then adjusted as necessary. Ptolemy in fact is specific about his “corrections” and thus confirms the inherent uncer-

After: Nordenskiöld 1889, unpaginated map section at end.

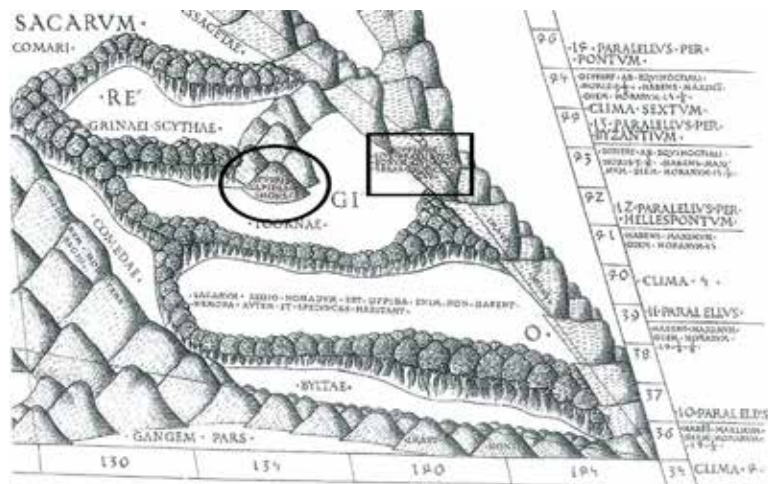


Fig. 1. The bottom right hand portion from Map XXII Ptolemaeus Romae 1490. Within the oval is the inscription “*Turrus Lapidea Mons*”; within the rectangle: “*Oppidum sive praesidium eorum qui apud Seras proficiscitur.*”

tainty in the caravan distances:

However, we reduce according to the appropriate correction both the distance from that crossing of the Euphrates to the Stone Tower, which amounts (according to him) to 876 schoinoi or 26,280 stades, and that from the Stone Tower to Sera, the metropolis of Seres, a journey of seven months, or [according to Marinus] 36,200 stades reckoned on the same parallel [through Rhodes]. For in the case of both journeys, [Marinus] has clearly not subtracted the excess resulting from diversions...

Ptolemy then makes this reduction, but by an amount less than what it should have been, for the sake of simplicity:

...[I]t would appear sensible here too, to diminish the number of stades added up from the seven months' itinerary, namely 36,200, to less than half. Let it, however, be reduced just to half, for this rough determination. [Berggren and Jones 2000, pp. 71-72.]²

As we learn further from Ptolemy about his sources, we can see additional reasons for the uncertainty of his information. Ptolemy wrote the *Geographia* around 140 CE, basing his work on the writings of Marinus of Tyre (c. 70-130 CE) who was active around 100 CE. In fact, Ptolemy acknowledges that most of his geographical data comes from the work of Marinus, written down by Ptolemy some time after Marinus had produced the last version of his own geography (Berggren & Jones 2000, pp. 23-24). However, as Ptolemy tells us, Marinus learned of the route to the Stone Tower from a merchant, Maes Titianos, who in turn had received reports from his own envoys and their itineraries:

Marinus says that one Maes, also known as Titianus, a Macedonian and a merchant by family profession, recorded the distance measurements, though he did not traverse it himself but sent certain [others] to the Seres. [Berggren and Jones 2000, p. 72.]

Most traders rarely travelled more than a few stages of the route before selling their goods to other merchants, a practice that allowed them to stay within their own local areas (Hansen 2012, p. 139). Therefore, it is also likely that much of this information may have been passed on from one trader to another, the process involving some loss in factual accuracy. In describing information gained from such individuals, Marinus laments that they

do not concern themselves with finding out the truth, being occupied with commerce; rather, they

Fig. 2. View looking through the remains of the Tashkurgan Fort toward Mt. Mustagh-Ata, Xinjiang.

often exaggerate the distances out of boastfulness. But here also the circumstance that nothing else in the seven months' journey was deemed worthy of any record or report by the travelers reveals that the length of time is a fiction. [Berggren & Jones 2000, p. 72.]

To summarize, Ptolemy learned of the Stone Tower third-hand at best, decades after the actual journeys took place, and its location was estimated using very rudimentary "survey" methods. It is hardly surprising then that locating the Stone Tower precisely, using only his coordinates and writings, has always proved very problematic!

A literal translation of *Turris Lapidea* or *Lithinos Pyrgos* as "stone tower" (though also translated as "stone castle" or "stone fortress" by others) is not much help either. Although the name "Tashkurgan" means "stone tower", there is more than one town in Central Asia with this name. The name is one reason Tashkent ("Stone Castle") has been cited by some as the location of Ptolemy's tower. Another frequent identification has been Tashkurgan in Xinjiang, situated clearly along one of the historic East-West routes. However, it is not clear whether the lowest layers of the fortress one now sees there antedate the Tang Dynasty (its upper part was restored in the late 19th century when used by the Qing) (Bonavia 1988, p. 178) [Fig. 2]. The recent study by Tupikova et al (2014) attempts to resolve distances and locations in the *Geographia* through "the application of spherical trigonometry for the recalculation of Ptolemy's coordinates," and concludes that locating the Stone Tower in Tashkurgan makes the most sense of Ptolemy's data.

The most widely accepted identification for the location of the Stone Tower is in the vicinity of Dauraut-Kurghan, on the Kyzyl Suu River in the Alai region of what is now southern Kyrgyzstan. Aurel Stein provided one of the most coherent arguments for this identification based on the careful observations he made of the terrain he passed through, following



Photo 1995 courtesy of Daniel Waugh

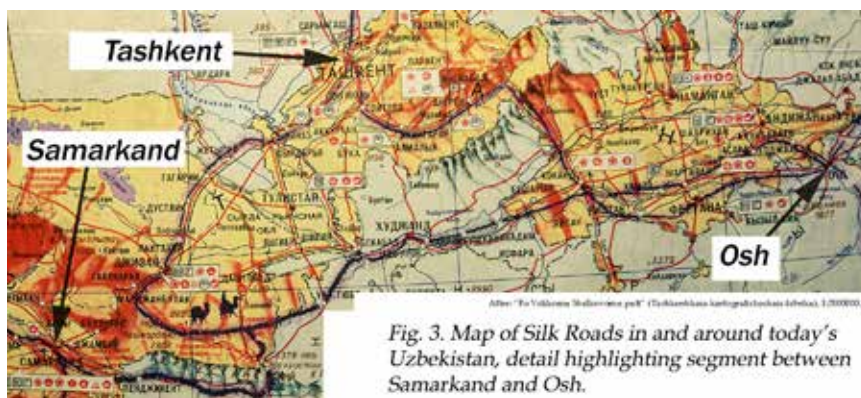
which he then analyzed the data from Ptolemy. He credited Sir Henry Yule as being one of the first to suggest that Ptolemy was describing a route up through what is now Tajikistan from the Amu Darya (Oxus River) along the Karategin Gorge (up the Wakhs/Surkhab valley) to where it meets the Kyzyl Suu, not far from the location of Daraut-Kurghan. Stein argued that the valleys this route followed were among the lowest in the high mountains of this region and presented few obstacles to travel. Furthermore, the local conditions just short of Daraut-Kurghan were suitable for a reasonably productive agriculture that could have supported an early settlement there and the needs of passing travelers. While he noted some possible evidence of ancient remains (recent archaeology has confirmed they exist), he had no concrete data. In his time, the fortification at Daraut-Kurghan was of recent date. Once at Daraut-Kurghan, the most direct route to China ran up the Kyzyl Suu Valley to a pass just west of Irkeshtam, then descended past Irkeshtam into Eastern Turkestan. In Stein's opinion, this route was the one most consistent with the trade route of Maes or his informants, which passed through Baktia before ascending northeast to go on, eventually, to China (Stein 1928, Vol. 2, pp. 847–51). Bernard's recent study (2005), illustrated with detailed maps, in which he carefully tried to trace the route taken by the caravan of Maes Titianos, likewise locates the Stone Tower near Daraut-Kurghan. P'iankov (2014)³ agrees with this identification, basing his work on a detailed analysis of Ptolemy's data and personal observations, having traveled along much of the route himself. Both he and Bernard reject the fourth alternative, argued recently by Claude Rapin (2001) – namely that the Stone Tower is the Takt-e-Suleiman mountain in Osh. Like so many other scholars, Rapin based his conclusion in the first instance on his analysis of Ptolemy's text.

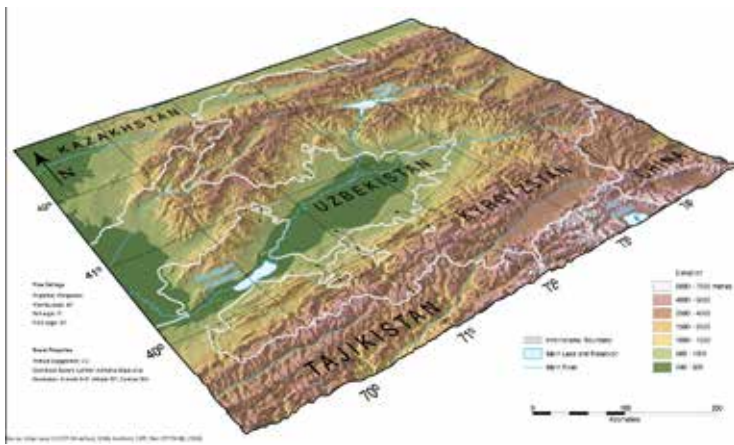
Keeping in mind just how sketchy Ptolemy's information really is and the circumstances which would force us to conclude it cannot be very accurate, one has to wonder whether any amount of re-calculation

of his coordinates, however sophisticated (such as in the work of Tupikova et al.), can produce a persuasive argument about where exactly his "Stone Tower" was located. Suppose then, we were to put Ptolemy aside and frame our inquiry in different terms. My premise is that we should start from three essential requirements such a prominent meeting place as the Stone Tower would have needed to satisfy. These requirements are: (i) it must have been on a major caravan trading route, close to the crossover point between the Pamirs and China; (ii) it was a clearly identifiable and permanent landmark; and, (iii) it was capable of supporting the needs of significant amounts of caravan traffic in terms of water and pasturage for the animals, food and shelter for the accompanying travelers, and as a trading settlement for the merchandise.

The remainder of this article will show how the Takt-e-Suleiman mountain in Osh, Kyrgyzstan may most closely match these three requirements. This mountain is known popularly in the West as "Solomon's Throne" but locally as Sulaiman-Too ("Too" means "mountain" in Kyrgyz), the designation to be used going forward. In focusing on Sulaiman-Too, I will note where I feel the other three proposed locations (Tashkent, Tashkurgan and Daraut-Kurghan) do not seem to satisfy these requirements, although it is not my intention, given limited space, to compare all four sites in detail.

While it is obvious that to have been so prominent the Stone Tower must have been located on a major trading route, we need to consider how well such a route or routes in the region have been documented over time. Most maps constructed by modern scholars in discussing the "silk routes" include a branch going through the Ferghana valley (at whose head Osh lies) (e.g., Whitfield 2004, pp. 10-11) [cf. Fig. 3],⁴ but clearly there were other options for travel, which might have been preferred depending on weather or political and economic considerations. To a considerable degree the modern maps of the silk roads reflect, it seems, what Wilkinson (2014) has criticized as "route inertia." That is, there has been an assumption that routes remain more or less stable over long periods of time and thus can be "documented" by extrapolation even when there are no hard data to support their earlier existence. In analogous fashion, Whitfield (2007, p. 207) has criticized the idea that routes be defined in the first instance geographically while neglecting key evidence around the economics which underpinned them.





Source: <http://www.grid.unep.ch/products/4_Maps/ferghana_3db.gif>

Fig. 4. Three-dimensional image of the Ferghana Valley Region (UNEP map, 2004) which offers an excellent view of the regional topography and provides a sense of how open the valley is to those coming from the west.

The fertile Ferghana Valley, the pasturelands within its encircling mountains and the routes through it were historically important [Fig. 4]. This has in fact been documented, in part in connection with the activity of the Sogdians, whose home territory in the vicinity of today's Samarkand lay on an easy and direct route to the west. The Han Emperor Wu Di (r. 141–87 BCE) sent his emissary Zhang Qian to the West and eventually received a report about the “blood-sweating” horses which he then sought to obtain for the Chinese army. The homeland of those horses was, it seems, the Ferghana Valley. Sogdian traders started becoming active from the 2nd century BCE onwards, though initially in a limited and regional way (Vaissière 2005, p. 333). The *Han shu*, the official history of the Former Han dynasty (completed in 121 CE, covering the period from 202 BCE to 23 CE), records that in 29 and 11 BCE ambassadors from Kangju, a state which included Sogdiana, had presented themselves at the Chinese court. It describes the Sogdians as expert traders who would haggle over a fraction of a cent (Hulsewe 1979, pp. 128, 136). In subsequent centuries at least up to the 7th century CE, the Sogdians were arguably the main foreign merchants in Gansu and the principal long-distance merchants in Central Asia. Sogdians settled in China and often occupied positions of prominence in Chinese society. (Vaissière 2005; Hansen 2012, pp. 113–39). While the peak of the Sogdian activity would

seem significantly to post-date what Ptolemy reports about the Stone Tower, there is no reason to think that to argue the early importance of the route through Ferghana is an anachronistic application of “route inertia.” In Wilkinson’s terms, where he argues (2014, p. 114) that “routes” should be understood in broad terms and determined by an estimate of the “cost of passage” along them, going from Samarkand (historically important as Maracanda even back in the 4th century BCE when Alexander the Great conquered it) through the Ferghana Valley must have been one of the lowest cost ways of moving eastward toward China. Whether getting from Osh through the mountains further east was equally low cost is another matter.

It certainly was possible to get from Karategin to Osh. As Stein reported from his interactions with the Russian officials he met after entering the upper reaches of the Kyzyl Suu, there were at least two standard routes which enabled one to travel from that valley to Osh: a rather difficult one over the Terek Pass that came out not far from Irkeshtam, and another direct and much-frequented route that ran north from near Daraut-Kurghan, coming out at Marghilan in the Ferghana Valley. At least theoretically it would have been possible, if Maes’ merchants had come up from the Oxus through Karategin to the Kyzyl Suu (as Stein, Bernard and P’iankov believe), for them to have gone by way of Marghilan on to Osh and then traveled further into China. The lure of the fertile area near Osh might well have served as an incentive to make what would have been a relatively short detour (perhaps ten days’ travel) to rest and trade before tackling the difficult crossing of the mountains to the east.

After: USSR General Staff quadrant K-43-122-B (Osh), 1:50000 (1982 ed.); (insert): adapted from UNESCO Nomination 2005, Map N4.

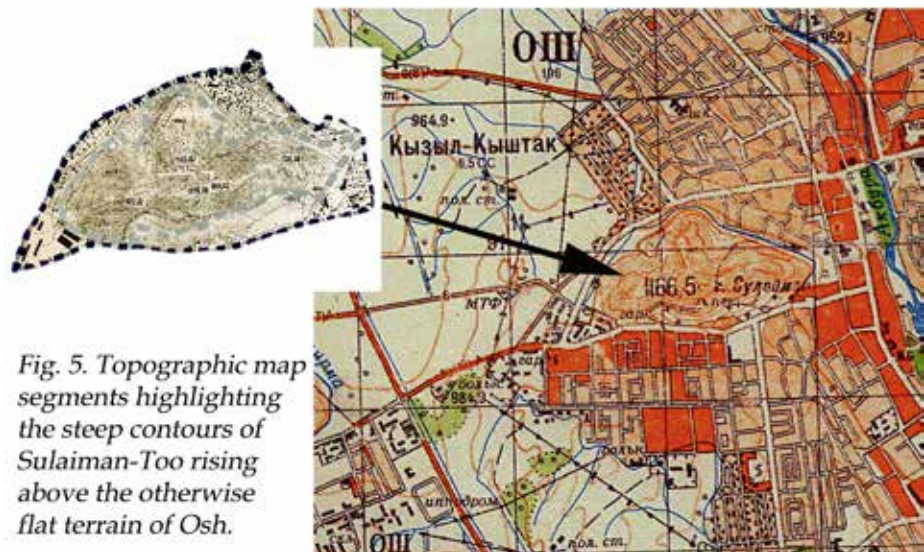


Fig. 5. Topographic map segments highlighting the steep contours of Sulaiman-Too rising above the otherwise flat terrain of Osh.



Fig. 6. Two views of Sulaiman-Too that highlight the dramatic elevation of the peak.

A stronger case might be made for Osh and Sulaiman-Too if we consider our second criterion, that the Stone Tower must have been a clearly identifiable and permanent landmark. Dominating as it does a flat landscape and separated from the hills that rise to the east and south, its size is impressive [Fig. 5]. Travelers arriving from the west would have seen it from a distance even if in absolute terms, this “mountain” is really a large cluster of rocky limestone hills consisting of five peaks [Figs. 6, 7]. The highest peak is 628 feet [191 m] above the surrounding ground level (and 3,855 feet [1,175 m] above sea level). The entire mountain covers a land area of around 277 acres [112 hectares]. It certainly could not be mistaken for any other mountain or hill.

While some would have it that the Stone Tower must

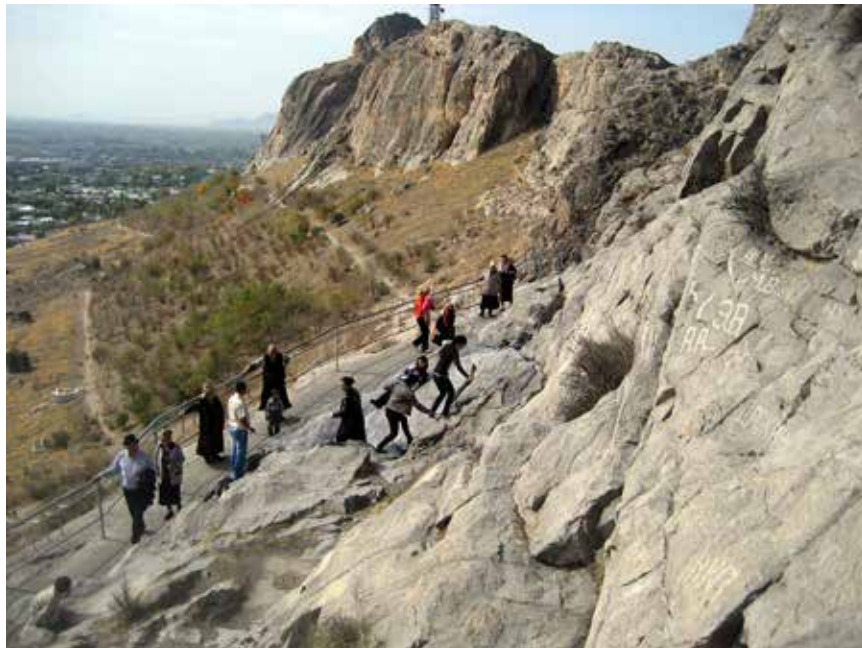


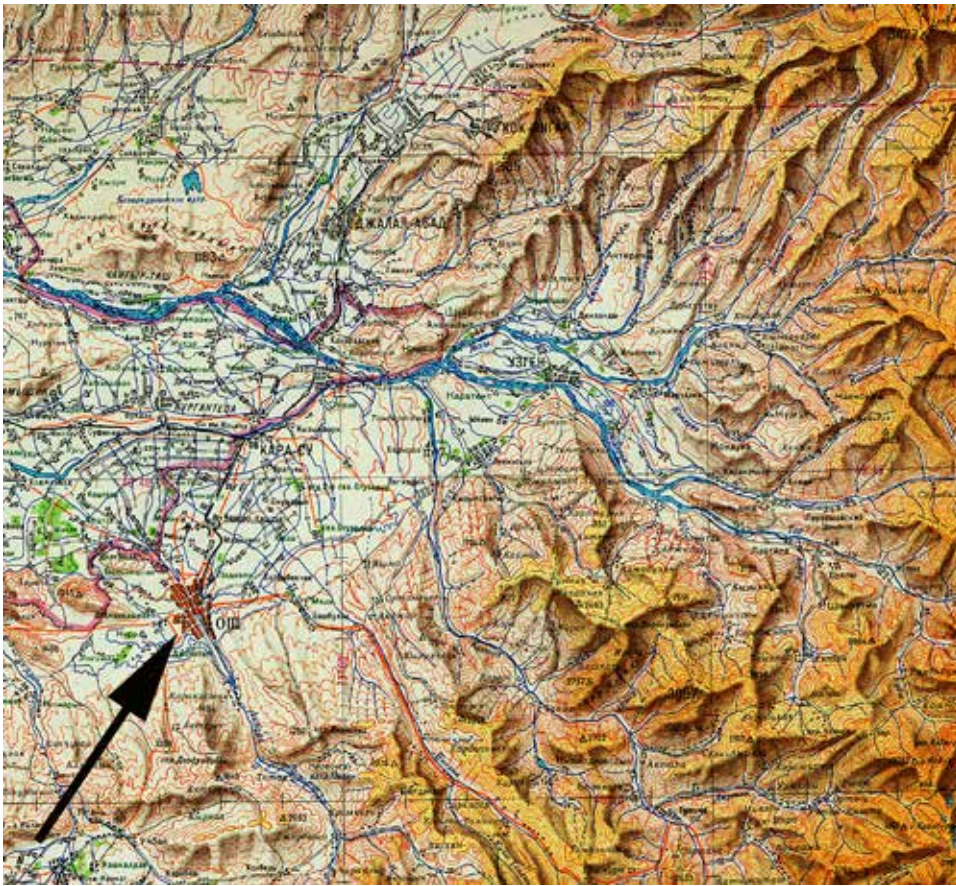
Fig. 7. View from high on Sulaiman-Too looking across the peak and down toward the city.

Photos on this page courtesy of Jennifer Webster



have referred to a manmade structure, likely a fort, it could have referred to a mountain instead, or one that might have had some fortification on its summit. For what it is worth, the Rome version of Ptolemy’s map published in 1490 specifically labels the tower as *Turris Lapidea Mons* (Stone Tower Mountain) (see Nordenskiöld 1889, p. 4 and Map XXII). No such feature dominates the skyline around Tashkent. There is apparently insufficient evidence about the historic remains at Daraut-Kurgan to be sure that a prominent manmade tower was located there. The remains of the fort at Tashkurgan are impressive, if not dramatically prominent when approaching the city, but, as in the case with Daraut-Kurgan, there is as yet insufficient evidence to prove what was there during Maes’ era some 2,000 years ago.

Our third criterion is that the area near the Stone Tower be capable of supporting the needs of significant amounts of caravan traffic in terms of water and pasturage for the animals, food and shelter for the accompanying travelers, and as a trading settlement for the merchandise. Caravans crossing Central Asia were often quite large, might include hundreds of animals and a



Source: USSR General Staff quadrant K-43_V, 1:500000 (1965 ed.)

multitude of people: merchants, camel drivers, servants, a solid armed escort, sometimes private individuals, small merchants, monks and artists (Boulnois 2004, p. 201).

One indicator of the resources and overall ability of a site to host such large caravans might be the size and development of the surrounding settlement. Tupikova et al (2014, Tab. 1, pp. 27-28) have summarized population from the data in the *Han Shu* (with some question marks about whether the identifications are correct): Tashkurgan? - 5,000; Alai valley [= Daraut-Kurghan]? - 1,030; Ferghana region - 300,000; and Samarkand region - 600,000. By this measure, Ferghana had the resources to support a much larger population than did Daraut-Kurghan or Tashkurgan. Even today Osh is a major population center (the second largest city in Kyrgyzstan), and the Ferghana valley (most of which now lies within Uzbekistan) is one of the most populous regions in Central Asia.

In the year 2000, Osh celebrated its 3,000th anniversary of permanent settlement, even if one cannot be certain it is *exactly* that old. In fact, Zadneprovskij (2000) has documented that history back to the Bronze Age, citing many archaeological finds recovered on and around Sulaiman-Too, as well as numerous petro-

Fig. 8. Osh (indicated by the arrow) and its region on a modern topographic map, highlighting its location next to the mountains and the abundant water resources.

glyphs on the rock surfaces of the mountain. So we can at least be certain that the area was settled during the era when Ptolemy wrote of the Stone Tower. The varied rock art on the mountain has been dated to between the 15th century BCE and the 7th century CE (Clottes 2011, p. 61).

Osh lies at the head of the fertile Ferghana Valley, which has always been a veritable ‘food basket’ for the whole region (“Osh” means “pilaf” in modern Uzbek) [Figs. 8, 9]. The valley owes its fertility to two rivers, the Naryn and the Kara Darya, which unite in the valley to form the Syr

Darya. Numerous other tributaries run through this luxuriant valley, including the Ak-Buura River which flows just 0.3 miles [0.5 km] from Sulaiman-Too, and which would have offered immediate access to water for passing caravans. The excellent pasturage in these valleys has been well documented in history [Fig. 10]. It is here that the best alfalfa grass grew, which was essential for rearing Ferghana’s famed “heavenly horses of Davan.” As already mentioned above, these were the hardy and fleet-footed horses reputed to “sweat

Fig. 9. Aerial view taken near Osh, showing how the flat fields of Ferghana (here awaiting planting) come up to the encircling hills.



Photo 1991 courtesy of Daniel Waugh

blood” that the Han dynasty sought to obtain in the 2nd century BCE in an effort to bolster their cavalry breeding stock. One might assume then, that Ferghana not only offered ample grazing for the caravan animals, but also would have provided opportunities to trade in these most famous and sought-after Ferghana horses, exchange their tired mounts for fresh ones, and replace those that had died on route. While the route past Daraut-Kurghan was certainly not lacking in grazing opportunities and water, its resources probably were much more limited. Stein suggests as much when he comments on the places where some agriculture was practiced that did not seem to form a contiguous stretch of fertile land.

While ignored by other scholars, one additional fact may help make the case for Sulaiman-Too – the strong religious and cultural significance this mountain has always held for the people of this region. This was the primary reason for its being listed as a “World Heritage Site” by UNESCO in 2009, as mentioned in its citation: “The site is believed to represent the most complete example of a sacred mountain anywhere in Central Asia, worshipped over several millennia.” (UNESCO Sulaiman-Too). A detailed discussion of the religious nature of this site is beyond the scope of this article, but it is important at least to mention a few of its key attributes: It is thought to be the only such sacred mountain in this region, and its cult sites have been long sought out for their supposed powers to heal various ailments, improve fertility and give one the blessing of longevity. Possibly the earliest cult practiced here may have been Mithraism. Its rites included libation of *haoma*, their sacred beverage, which ties in with the ground gutters and cup hollows found in and around the many caves and grottoes on

Fig. 10. View of herder camp in mountain pasture area along the road leading south from Osh.



Photo 1991 courtesy of Daniel Waugh



Photo 1991 courtesy of Daniel Waugh

Fig. 11. Small mosque atop Sulaiman-Too, allegedly built by Babur in the late 15th century; rebuilt several times since. A destination today for the pilgrims who climb the mountain.

Sulaiman-Too. These stone hollows, up to 6 inches [20 cm] in diameter, are the most numerous special features found on this mountain and, together with the polished inclined floor gutters, measuring from 3.8 up to 4.8 yards [3.5 to 4.5 m], may have been used in rituals to imitate the myth of Mithra’s birth from rock in a cave. There is even some textual evidence in the early Chinese annals – the *Shiji* (2nd century BCE) and the *Han shu* (1st century CE) – suggesting the religious importance of Sulaiman-Too prior to the era of Ptolemy. They mention that one of the main towns of *Davan* (Ferghana), situated in the Osh area, was *Guishan* (*Guishan-Chen*), which translates to “a town near a highly respected/sacred mountain” (UNESCO Nomination 2005, pp. 1–6, and Supplementary Information 2008: Management Plan, Part 1, unpaginated; Amanbaeva 2001, pp. 177–79). With the coming of Islam, the mountain became an important pilgrimage site and remains so to this day (see Zarcone 2013) [Fig. 11]. Given this history, it is certainly logical to assume that the mountain was a much sought-after location for travelers seeking blessing and good fortune on their difficult and dangerous enterprises, thus further enhancing its position as an important landmark.

To conclude, Ptolemy’s Stone Tower cannot be located today with certainty, based on the information he and other geographers and historians of his era left behind, or at least not until further evidence, such as new archaeological discoveries, comes to light. However, by using a new set of criteria proposed by this author to assist in solving this age-old problem, there is a strong case to be made that the Sulaiman-Too mountain, which dominates the city of Osh, could well be this famous landmark of antiquity on the Silk Road.

About the author

Riaz Dean is an independent scholar and an engineer, who also holds an MBA degree. He has travelled extensively through many of the countries and routes on the Silk Road, including the Pamirs and spent time in Osh by the Sulaiman-Too. He lives in Wellington, New Zealand, and his email address is: <riaz_dean@yahoo.com>.

References

- Amanbaeva 2001
Bakyt E. Amanbaeva. "Sacred Mountains of Kyrgyzstan." *UNESCO Thematic Expert Meeting on Asia-Pacific Sacred Mountains, held in Wakayama City, Japan 2001*: 177-79.
- Berggren and Jones 2000
J. Lennart Berggren and Alexander Jones. *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*. Princeton: Princeton University Press, 2000.
- Bernard 2005
Paul Bernard. "De l'Euphrate à la Chine avec la caravane de Maës Titianos (c. 100 ap. n. e.)." *Comptes rendus des séances de l'Académie des Inscriptions et Belles Lettres*, 2005, No. 3: 929-69.
- Bonavia 1988
Judy Bonavia. *The Silk Road*. London: Collins, 1988.
- Boulnois 2004
Luce Boulnois. *Silk Road: Monks, Warriors & Merchants on the Silk Road*. Tr. by Helen Loveday. Hong Kong: Odyssey Books, 2004.
- Clottes 2011
Jean Clottes, ed. *Rock Art in Central Asia: A Thematic Study*. Paris: ICOMOS (International Council on Monuments and Sites), 2011.
- Hansen 2012
Valerie Hansen. *The Silk Road: A New History*. Oxford: Oxford University Press, 2012.
- Hulsewe 1979
Anthony Francois Paulus Hulsewe. *China in Central Asia, the Early Stage: 125 BC – AD 23*. Leiden: Brill, 1979.
- Nordenskiöld 1889
Adolf Erik Nordenskiöld. *Facsimile-Atlas to the early history of cartography with reproductions of the most important maps printed in the XV and XVI centuries*. Tr. by J. Ekelof and C. Markham. Stockholm, 1889 (repr. New York: Dover Publications, 1973).
- P'iankov 2014
Igor' Vasil'evich P'iankov. "'Kamennaia Bashnia' na Velikom shelkovom puti" [The "Stone Tower" on the Great Silk Road]. In: *Scripta Antiqua. Voprosy drevnei istorii, filologii, iskusstva i material'noi kul'tury*. T. 3. K iubileiu Edvarda Vasil'evicha Rtoeladze. Moskva: Sobranie, 2014: 204-19.
- Rapin 2001
Claude Rapin. "L'incompréhensible Asie central de la carte de Ptolémée. Propositions pour un décodage." *Bulletin of the Asia Institute*, N. S., 12 (1998/2001): 201-25.
- Stein 1928
Aurel Stein. *Innermost Asia: Detailed Report of Explorations in Central Asia, Kansu, and Eastern Irān Carried Out and Described under the Orders of H.M. Indian Government*. 4 vols.. Oxford: Clarendon Pr., 1928. Here, vol. 2.
- Stevenson 1932
Edward Luther Stevenson. *Geography of Claudius Ptolemy*. New York: New York Public Library, 1932.
- Tupikova et al. 2014
Irina Tupikova, Matthias Schemmel, and Klaus Geus. *Travelling along the Silk Road: A new interpretation of Ptolemy's coordinates*. Preprint 465. Berlin: Max Planck Institute for the History of Science, 2014.
- Thomson 1948
James Oliver Thomson. *History of Ancient Geography*. Cambridge: Cambridge Univ. Pr., 1948.
- UNESCO Nomination 2005
The National Academy of Sciences of Kyrgyz Republic. *Nomination of Sulaiman-Too Cultural Landscape* [for UNESCO World Heritage List]. [Bishkek], 2005. <<http://whc.unesco.org/uploads/nominations/1230rev.pdf>>, last accessed June 22, 2015.
- UNESCO Sulaiman-Too
"Sulaiman-Too Sacred Mountain." [UNESCO World Heritage List] <<http://whc.unesco.org/en/list/1230>>, last accessed June 22, 2015.
- Vaissière 2005
Étienne de la Vaissière. *Sogdian Traders: A History*. Tr. by James Ward. Leiden: Brill, 2005 (first published in French as *Histoire des marchands Sogdiens* by De Boccard & Institut des Hautes Études Chinoises, 2002).
- Whitfield 2004
Susan Whitfield, ed. *The Silk Road: Trade, Travel, War and Faith*. London: British Library, 2004.
- Whitfield 2007
Susan Whitfield. "Was there a Silk Road?" *Asian Medicine* 3 (2007): 201-03.
- Wilkinson 2014
Toby C. Wilkinson. *Tying The Threads Of Eurasia. Trans-regional routes and material flows in Transcaucasia, eastern Anatolia and western central Asia, c. 3000-1500 B.C*. Leiden: Sidestone Press, 2014.
- Zadneprovskij 2000
J. A. Zadneprovskij [Iurii Aleksandrovich Zadneprovskii]. *The Osh Settlement: On the History of Ferghana in the Late Bronze Age*. Bishkek: Kyrgyz Republic National Academy of Science, 2000.
- Zarcone 2013
Thierry Zarcone. "Atypical Mausoleum: the Case of the

Salomon Throne (Kyrgyzstan): Qadam-jäy, Jinns-Cult and Itinerary-Pilgrimage." In: *Muslim Saints and Mausoleums in Central Asia and Xinjiang*. Ed. Shinmen Yasushi, Sawada Minoru and Edmund Waite. Paris: Libraire Maisonneuve, 2013: 73-89, 203-10

Notes

1. This discrepancy is not entirely obvious, but can be deduced from Ptolemy's coordinates in Book I Chapter 12, as shown in the table prepared by Nordenskiöld (1889, p. 4): The sum of longitude from Insulae Fortunatae (Ptolemy's prime meridian at 0°, the Canary Islands) to Sera (capital of China, probably Luoyang) totals 177 ¼°; subtracting the distance given for Turris lapidea to Sera of 45 ¼° gives the value of 132°.

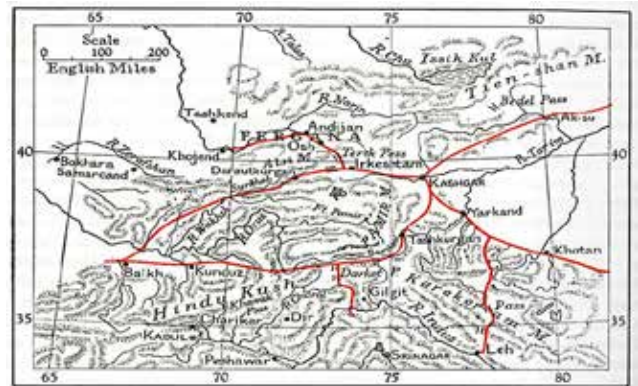
2. The translation by Berggren and Jones from the Greek text by Nobbe is to be preferred compared to the much-criticized Stevenson translation, based on the Renaissance Latin text of the *Geographia*, although in fact there is no major discrepancy between the two in this particular passage. Stevenson's text here reads (1932, p. 33):

The distance from the Euphrates at Hieropolis to the Stone Tower, Marinus gives as eight hundred and seventy-six schena, or 26,280 stadia. The distance from the Stone Tower to Sera, the capital of Seres, which is a journey of seven months, he computes at 36,200 stadia. Since these two distances are measured on the same parallel, we shall shorten both by making a necessary correction, as it is clear that Marinus made no reduction for deviations in either journey...it seems to us proper that the

number of stadia, viz., 36,200, which was computed from a journey of seven months, should be cut down to not less than one-half; and for easier understanding to only one-half; so that the distance in stadia may be computed as 18,100, or forty-five and one-fourth degrees.

3. I should emphasize at the outset here that my article has not been written as a specific response to the work of Igor' Vasil'evich P'iankov, since I do not read Russian. I know his article (2014), translated elsewhere in this volume of *The Silk Road*, only from its previously published short English summary and have not read his monograph on the Classical sources about Central Asia.

4. Among the modern maps depicting the various branches of the Silk Roads in the center of Asia, Thomson's is distinctive in that it shows all of the locations which have been suggested for the "Stone Tower":



After: Thomson 1948, p. 308, Fig. 56