

Camels and Colonial Armies. The Logistics of warfare in Central Asia in the early 19th century

Journal of the Economic & Social History of the Orient Vol.57 No.4 pp.443-485

‘But it’s everlastin’ waiting on an everlastin’ road

For the commissariat camel and ‘is commissariat load.’¹

One of the underlying assumptions behind many studies of European imperial expansion is that it was founded on rapid institutional and technological change which, within the space of less than a century, from the siege of Vienna in 1683 to the Battle of Plassey in 1757, gave European armies a decisive superiority over those of Africa and Asia. The one-sided carnage of many colonial campaigns would seem to bear this out: Herbert Kitchener’s conquest of the Sudan in 1898 pitted an industrialised army, supplied by rail and armed with maxim guns, against the sword-wielding cavalry of the Khalifa, and the result was less a battle than a massacre – at Omdurman at least 11,000 dervishes were killed, to just 500 casualties on the Anglo-Egyptian side, with no more than 60 dead.² The Russian case is less familiar to most historians of empire, but their conquest of Central Asia produced many similarly one-sided clashes, the most notorious perhaps being the massacre of between 8 and 14,000 Turkmen (no-one is quite sure) after the fall of the fortress at Gök-Tepe in 1881, for the loss of just over 1,000 Russian officers and men.³ As in the Sudan, this campaign was also notable for the construction of a light railway to carry troops and supplies, from the Caspian at Uzun-Ada to Kizil-Arvat. By the end of the 19th century the technological gap between European and ‘native’ armies had grown so wide that colonial warfare could even be seen as unsporting, as Hilaire Belloc drily noted:

“Whatever happens we have got

The Maxim Gun, and they have not.”⁴

These are late 19th-century examples from the last years of colonial conquest, but the classic statement of this thesis, the ‘Military Revolution’ first put forward by Michael Roberts in 1955, but most persuasively argued by Geoffrey Parker, puts the key developments in artillery, firearms and infantry drill much earlier, in the 17th and 18th centuries, providing a

¹ Rudyard Kipling ‘Oonts!’ from *Barrack-Room Ballads*, quoted in Lockwood Kipling *Beast and Man in India. A popular sketch of Indian animals and their relations with the people* (London: Macmillan & Co, 1891): 250-1

² G. W. Steevens *With Kitchener to Khartoum* (Edinburgh: Wm Blackwood & Sons, 1898): 284-7

³ A. N. Kuropatkin *Zavoevanie Turkmenii (Pokhod v Akhal-Teke v 1880-1881 godu)* (St Pb.: V. Berezovskii, 1899): 211

⁴ H. B. and B. T. B [Hilaire Belloc] *The Modern Traveller* (London: Edward Arnold, 1898): 41

neat explanation for the seemingly inexorable success of European armies even before the products of industrialisation were pressed into the service of warfare.⁵ However Parker's thesis has come in for considerable criticism in recent years, particularly from historians of South Asia. Randolph Cooper has demonstrated convincingly that in terms of both technology and military discipline and drill, the artillery and infantry of the Maratha armies of late 18th and early 19th – century India were at least a match for the East India Company's, while their cavalry was superior. Their defeat was owing to the Company's superior military intelligence and fiscal resources, as well as the over-reliance of the Marathas on European mercenary officers who could be bought off by their opponents.⁶ Kaushik Roy describes how 18th-century South Asia saw the emergence of a military synthesis: if the East India Company's sepoy armies had some advantages of technology and drill in the 1750s, by the 1780s Indian rulers had copied their techniques and their weapons, frequently employing European adventurers to drill their troops. Meanwhile the East India Company's commanders also borrowed training and tactics from their opponents, most notably in their development of cavalry. The most formidable of these modernised South Asian armies Ranjit Singh's *Khalsa* in Punjab, was very nearly a match for the East India Company's forces well into the 1840s, and once again it was the greater staying-power given by the Company's huge fiscal resources and easier access to credit which were the decisive elements in its eventual victory.⁷ Nor did the conquest of Indian states necessarily lead to the military subjugation of Indian society. Dirk Kolff has demonstrated that, like its Great Mughal predecessors, for at least the first sixty years of its rule in Northern India the East India Company was unable to impose anything approaching a monopoly of legitimate violence on the unruly military labour market. Until the early 1800s a heavily-armed peasantry could continue to defy British authority in areas such as Bundelkhand, and this can be extended to the 1830s if we view *Thuggee* as a outgrowth of this military culture, rather than the religious

⁵ Geoffrey Parker *The Military Revolution, 1500–1800: Military Innovation and the Rise of the West* (Cambridge: Cambridge University Press, 1988): 122, 128 – 136.

⁶ Randolph G. S. Cooper *The Anglo-Maratha Campaigns and the Contest for India. The struggle for control of the South Asian Military Economy* (Cambridge: Cambridge University Press, 2003): 284 – 312; Parker admitted that the Marathas had acquired European artillery by the late 18th century, but considered this to be 'another case of routine mimesis ... too little and too late' *The Military Revolution*: 136.

⁷ Kaushik Roy 'Military Synthesis in South Asia: Armies, Warfare, and Indian Society, c. 1740–1849' *Journal of Military History* 69/3 (2005): 651 – 690.

cult re-imagined by William Sleeman; the armed peasantry would revive again during the 1857 rebellion.⁸

Alongside strategy, tactics, training and weapons technology, there is another factor that needs to be taken into account when assessing the superiority or otherwise of European arms in the process of colonial conquest, and that is logistics and supply. This was of crucial importance in Central Asian campaigns. Peter Perdue has noted that it was the key factor which determined the initial failure and ultimate success of the Qing campaigns against the Junghars between the 1730s and 1750s. Their ability first to control the grain market in regions neighbouring the Junghar confederation, and then to find nomadic allies who would supply the necessary transport (60,000 horses and 34,000 camels in the initial plans of the 1730s, a number which subsequently rose) finally allowed the Qing to prevail. They had to adapt to what Perdue calls 'the political ecology of frontier conquest' in an arid and sparsely-populated region, which involved vast expenditure and careful and elaborate planning before any technological or tactical advantages could be brought to bear on the enemy.⁹ In this respect one hundred years later little had changed. In the early 19th century a European colonial army might (and frequently did) have access to the latest military technology – such as Congreve rockets, based on a prototype developed in the army of Tipu Sultan, and first used by the British in the early 1800s. They were described by their inventor as particularly valuable for Indian warfare because of their lightweight character.¹⁰ A variant developed by General Karl Andreevich Shil'der was used by the Russians in Central Asia from the 1830s.¹¹ However, the means of movement and supply employed by colonial armies remained essentially the same as they would have been one hundred, or even three hundred years earlier. The railways used by Skobelev and Kitchener in the final phases of imperial conquest in the 1880s and 1890s were unavailable during the main phase of European expansion in Asia between 1750 and 1880. No colonial army, however advanced its weaponry or up-to-date its drill, could move an inch without thousands of pack animals. This in turn threw

⁸ Dirk H. Kolff *Naukar, Rajput & Sepoy. The ethnohistory of the military labour market in Hindustan, 1450 – 1850* (Cambridge: Cambridge University Press, 1990): 8-10, 187-92; Kim A. Wagner *Thuggee. Banditry and the British in Early Nineteenth-Century India* (Basingstoke: Palgrave Macmillan, 2007): 1-12, 217-226.

⁹ Peter C. Perdue *China Marches West. The Qing Conquest of Central Eurasia* (Cambridge, MA: Belknap Press, 2005): 331-2; 520-4.

¹⁰ Major-Gen. W. Congreve *A Treatise on the General Principles, Powers, and Facility of Application of the Congreve Rocket System, as Compared with Artillery: showing the various applications of this weapon both for sea and land service, and its different uses in the field and in sieges.* (London: Longman, Reese, Orme, Brown, and Green, 1827): 33, 45-7.

¹¹ Anon 'Khivinskaya Ekspeditsiya 1839 goda' *Russkaya Starina* 1873 7/2: 245

these armies and their leaders into a relationship of dependence on those who bred and supplied these animals –in many cases nomadic or semi-nomadic pastoralists with whom the imperial state already had a troubled relationship. This ensured that any campaign required months, if not years of logistical planning, and deep pockets to pay for both supplies and carriage. It also imposed structural constraints on the distances such armies could travel in barren country, and on the numbers of troops that could be supported. In this paper I propose to examine the consequences of this dependence on animal transport through two linked case studies of colonial warfare in Central Asia: the army of the Indus's march into Afghanistan in 1839, and the Russian winter expedition to Khiva in the same year.¹² I argue first of all that these cases reveal that colonial military power had to accommodate the economic and social realities of the pastoral societies it was attempting to conquer or face disaster. Secondly, the careful long-term planning and substantial budgets that long-distance expeditions of this kind required rule out the popular 'man-on-the-spot' explanation for European imperial expansion into Central Asia. It was simply impossible to launch spontaneous, unplanned campaigns in this region. Finally, logistical constraints rendered that recurring spectre in British imperial thinking, a Russian invasion of British India, a physical impossibility.

I – Camel Transport

Both the Khiva expedition and the army of the Indus relied on camels for transport – double-humped Bactrian camels beyond the Oxus, single-humped dromedaries in India and Afghanistan. Both these modern armies, though equipped with the latest in available military technology, were thus dependent on local knowledge and resources when it came to actually moving around. Each was, in a way, a colossal caravan, an apparently startlingly archaic means of projecting European power into Asia. In fact, as William McNeill has shown, even in the 19th century it would be a mistake to think of camel transport as an anachronistic, ineffective survival from an earlier era, although it is true that by the 1830s its days were numbered.¹³ In the early 19th century camels were still the principal form of long-

¹² For an account of the intertwined political background to these invasions see Alexander Morrison 'Twin Imperial Disasters. The Invasions of Khiva and Afghanistan in the Russian and British Official Mind, 1839 – 1842' *Modern Asian Studies* 48/1 (2014): 253 – 300.

¹³ Despite its title Niels Steensgaard *The Asian Trade Revolution of the Seventeenth Century: The East India Companies and the Decline of the Caravan Trade* (Chicago: Chicago University Press, 1973) reveals the surprising resilience of much caravan transport in the face of maritime competition; see further Scott Levi 'India, Russia, and the

distance land transport in the Maghreb, the Ottoman Empire, Iran, Central Asia and North-Western India (further East, where the damper climate did not suit them, they yielded to bullocks) and there were very good reasons for this. A single camel could carry a load of between 150 and 350kgs (this varied greatly with size and breed of camel and the nature of the terrain), more than twice as much as a horse or donkey.¹⁴ Camels have an unusually low energy cost from locomotion compared to other mammals, and this is not proportionally increased by the addition of a load.¹⁵ The camel caravan was fantastically efficient, required almost no infrastructure, and was capable of carrying goods very long distances very cheaply at a steady 4km an hour in flat country.¹⁶ This was in part because camels could graze as they travelled and carried a substantial supply of fat, making the transport of large quantities of fodder unnecessary. Most caravans consisted of no more than a few strings of six camels, meaning that they were unlikely to totally denude any route they passed across, and even the largest caravans in the Middle East had no more than 1,000.¹⁷ However, the quantities of camels which moved with the Khiva expedition and the Army of the Indus were like no caravan Central Asia had ever seen, the former having 10,000, the latter over 30,000 beasts carrying food, ammunition, fodder and baggage. Under these circumstances, many of the economies associated with caravan travel simply broke down, because even the richest landscape could not sustain that number of animals passing through it. Whilst they could travel for up to a week without eating, in order to remain in good condition each camel

transformation of the Central Asian Caravan Trade' *Journal of the Economic and Social History of the Orient* 42/4 (1999): 524-6. The economic importance of the camel for transport over shorter distances in rural Pakistan was still significant in the 1980s: Alan Heston, H. Hasnain, S. Z. Hussain & R. N. Khan 'The Economics of Camel Transport in Pakistan' *Economic Development and Cultural Change* 34/1 (Oct. 1985): 121 – 141.

¹⁴ Michel Tuchscherer 'Some reflections on the place of the camel in Ottoman Egypt' *Animals and People in the Ottoman Empire* ed. Suraiya Faruqi (Istanbul: Eren, 2010): 177 – 181; Hilde Gauthier-Pilters & Anne Innis Dagg *The Camel. Its Evolution, Ecology, Behaviour and Relationship to Man* (Chicago: University of Chicago Press, 1981): 109-110.

¹⁵ In one experiment camels carrying loads weighing 21 – 34% of their body mass increased their metabolic rate by just 18%: M. K. Yousef, M. E. D. Webster & O. M. Yousef 'Energy Costs of Walking in Camels, *Camelus Dromedarius*' *Physiological Zoology* 62/5 (Sept. – Oct. 1989): 1080 – 1088.

¹⁶ Indeed so regular is the camel's pace that James Rennell, the first surveyor of Bengal, thought that it could be used to calculate distances in regions where obtaining fixed points by celestial observations was difficult: James Rennell 'On the rate of Travelling, as performed by Camels: And its Application, as a Scale, to the purposes of Geography' *Philosophical Transactions of the Royal Society of London* 81 (1791): 129 – 145.

¹⁷ William H. McNeill 'The eccentricity of Wheels, or Eurasian Transportation in Historical Perspective' *The American Historical Review* 92/5 (Dec. 1987): 1111-1126; The classic exploration of the revolutionary effect of the development of camel transport (which led to the disappearance of the wheel in the Middle East for a millennium) is Richard W. Bulliet *The Camel and the Wheel* (Cambridge, MA: Harvard University Press, 1975)

would need 10-20kg of plant matter a day,¹⁸ meaning a total daily requirement of 300 – 600 tonnes for the Army of the Indus's camels. To transport even the lower amount would itself require another 1,000 camels, adding another 10,000kg of fodder to the army's requirements – accordingly, even assuming the minimum consumption of fodder and a 300kg load per camel (close to the upper limit possible), if every one of the 30,000 camels on the march had carried nothing but fodder, it would only have sufficed for 30 days. This makes it clear enough why it was essential that the camels lived off the land during the march and were well-fed before it, but the landscape of Sindh and the Bolan Pass did not yield this amount of grazing, even assuming the camels would be given time to feed properly. To this were added problems with climate, loading and management, which together added up to very high mortality rates. As Malcolm Yapp has rightly noted, 'Camels were probably the principal sufferers from the forward policy in Central Asia during these years.'¹⁹ While the army of the Indus killed an enormous number of camels (close to two thirds of those that set out), it did ultimately reach its destination, and the failure of the British invasion came almost three years later and largely for political reasons, though these were linked to financial problems caused in part by poor logistical planning. It was the Khiva expedition which failed altogether because almost 90% of its camels died on the march, and it is to this that I will therefore turn initially.

II – The Khiva expedition

By comparison with the 21,000 men who marched from Hindustan into Afghanistan with the army of the Indus, General V. A. Perovskii's expedition to Khiva was relatively small, with only 5,000 men, but it had to cross some of the most hostile territory on the planet, carrying all of its supplies, as there was no possibility of living off the land. The main challenges to the expedition were thus always logistical rather than military, as Perovskii had predicted from the very beginning: 'the success of the military enterprise against Khiva will be founded almost exclusively on the correct assessment and consideration of the means and methods for the supplying of men and horses.'²⁰ Everything – not just supplies for the men,

¹⁸ Gauthier-Pilters & Dagg *The Camel*: 36

¹⁹ M. E. Yapp *Strategies of British India. Britain, Iran and Afghanistan, 1798-1850* (Oxford: Clarendon Press, 1980): 391

²⁰ 'Vsepoddaneishii doklad general-ad'iutanta Perovskago' 7/02/1839 A. G. Serebrennikov *Sbornik Materialov dlya istorii zavoevaniya Turkestan'skogo Kraya* Vol.I 1839g (Tashkent: Tip Shtaba Voisk Turkestan'skogo Voennogo Okruga, 1908) Doc.6: 12

but forage for the pack animals – had to be carried with the force, which would really be a gigantic caravan.²¹ Perovskii's plan for the invasion involved sending out a substantial advance party of troops with Bashkir sappers under the command of Colonel Geke to construct two temporary fortifications at Aty-Yakshi on the Emba and at Aq-Bulaq, on the edge of the Ust-Yurt plateau, which would act as supply depots for the main column. Some indication of what lay in store for the expedition could be seen in the fate of this force. Although out of 7,878 men only 193 died (most of them Bashkir auxiliaries), out of the 23,290 horses used for transport no fewer than 8,869 died or were lost.²² This underlined the fact that the only feasible means of transport for this colossal quantity of material through the steppe was the camel.

Initially it was proposed to purchase the camels from the Kazakhs for 150 roubles each, and to hire the drivers separately, but Perovskii soon wrote to say that it would make much more sense to hire the camels together with drivers, as buying them was prohibitively expensive, whilst 'without the careful attentions of their actual owners the greater part will not survive the campaign.'²³ In principle this was sensible: fifty years later the British army's chief expert on camels would write that 'There can be no question about this. To look after camels you require men who have owned, bred, and driven camels all their lives – who know their ways, habits and characteristics most thoroughly, and who understand all their peculiarities and peccadilloes'.²⁴ He noted that this principle had seldom been observed during British colonial campaigns, and that this was a major factor in the excess camel mortality of the Afghan invasions of 1839 and 1878.

Initially Perovskii hugely underestimated the numbers of camels that would be needed, stating that one camel for every 8-10 men would be sufficient. He anticipated a force of just over 6,000 men, with 2,207 horses, 400 Kazakhs to look after the livestock, and just 1,712 camels.²⁵ The Russians had never before attempted to send such a large expedition so

²¹ M. Ivanin/D. Golosov 'Pokhod v Khivu v 1839 godu otryada russkikh voisk, pod nachal'stvom General-Ad'yutanta Perovskago' *Voennyi Sbornik* [VS] (1863) No.2: 322-3; Anon [Golosov/Ivanin] *A Narrative of the Russian Military Expedition to Khiva under General Perofski, in 1839. Translated from the Russian for the Foreign Department of the Government of India* (Calcutta: Office of the Superintendent of Government Printing 1867): 95

²² Perovskii to Chernyshev 14/11/1839 Serebrennikov *Sbornik* Vol.I Doc.112: 174-5

²³ Anon 'Khivinskaya Ekspeditsiya': 248; Perovskii to Chernyshev 09/05/1839 Serebrennikov *Sbornik* Vol.I Doc.24: 49

²⁴ Arthur Glyn Leonard *The Camel. Its uses and management* (London: Longmans, Green & Co. 1894): 254.

²⁵ 'Vsepoddaneishii doklad general-ad'yutanta Perovskago' 7/02/1839 Serebrennikov *Sbornik* Vol.I Doc.6: 15, 19-20.

deep into Central Asia, and clearly at this stage they had no idea of the real numbers of camels that would be required. Eventually 10,400 camels would set off from Orenburg, although by then the estimated requirement for the expedition had risen to 12,000; The process of collecting them began in August 1838 and would last for almost eighteen months. The head of the Orenburg Frontier Commission, General G. F. Gens, sent out a series of orders to the Kazakh Sultans of the Junior *zhuz*²⁶ instructing them to collect fixed numbers of camels from the different sections under their authority, and bring them to Orenburg on a particular date.²⁷ The Russians were only prepared to pay ten silver roubles for the hire of each camel, five roubles less than the going rate for a caravan journey to Khiva or Bukhara, and this, combined with what Perovskii described as intransigence on the part of certain Kazakh tribes, meant that gathering the 8,000 camels he then estimated would be needed was taking longer than anticipated.²⁸ General Ivanin, Perovskii's commissariat chief, later claimed that only the Kazakhs of the Baiuli tribe refused to provide their quota and were duly chastised, but other groups also failed to produce theirs by the time of departure, suggesting that resistance and reluctance were rather more widespread than he was willing to admit in his published account.²⁹ Another indication of dissent comes from a letter sent by the *Biis* of the Nazarov division of the Junior *Zhuz*, who drew attention to the contribution they had made, but clearly disagreed with Perovskii's aggressive intentions towards Khiva and resented the disruption of trade caused by the interning of Khivan merchants which Perovskii had ordered in 1836.

'For the forces of his Majesty the Emperor which have set out we gave 2,500 sheep, 200 camels, 200 horses and 4 camp guides to accompany the force to Khiva. If there is some other assignment for us, then we are always ready to carry it out. In the letter to us sent with Davletkildi Bishbaev your Excellency was pleased to say that we should detain with us Khivan merchants, but this is entirely unjust, which is known to Sultan Yusuf.'³⁰

²⁶ Since the early 17th century the Kazakhs had been divided into three tribal confederations, known as *Zhuz* ('hundreds'). The Junior (Kishi) *zhuz* occupied territory south of Orenburg between the Ural and Syr-Darya rivers, and on the Ust-Yurt plateau. The Russians referred to them as the 'Orenburg Kirgiz'.

²⁷ Gens to Sultan Bai Muhammad Aichuvakov 27/08/1838; Sultan Bai Muhammad Aichuvakov to Gens 12/09/1838 Central State Archive of the Republic of Kazakhstan (TsGARKaz) F.4 Op.1 D.2167 'Materialy ob otpravke v Khivu voennogo otryada dlya osvobozhdeniya russkikh plennykh' ll.1, 3ob-4ob.

²⁸ Perovskii to Chernyshev 24/06/1839 Serebrennikov *Sbornik* Vol.I Doc.51: 80

²⁹ Ivanin/Golosov 'Pokhod v Khivu' *V/S* (1863) No.2: 354-5; Anon *Narrative of the Russian Military Expedition to Khiva*: 121-2.

³⁰ The *Biis* of the Nazarov division to the head of the Orenburg Frontier Commission, 30/01/1840 TsGARKaz F.4 Op.1 D.2167 l.343

Eventually though, eighteen influential Kazakhs would be decorated with gold and silver medals for the crucial role they had played in assembling the necessary camels, whilst 131 were listed as having made important contributions.³¹ This highlights the total dependence of the Russian forces on the livestock and local knowledge supplied by the steppe's permanent inhabitants. Without huge efforts on the part of Kazakh sultans who owed allegiance to Russia, the Khiva expedition would never have left Orenburg at all. Nevertheless, while Ivanin acknowledged how indispensable they were, he would later write that 'on account of their knowledge of the characteristics of the camels, being accustomed to loading them and ministering to them, and also of their acquaintance with the Steppe, their trustworthiness and loyalty to us were doubtful, and, in the case of a hostile attack, it would be necessary to take measures of precaution not only to prevent them from running away, but also from having any intercourse with the hostile Kirgiz and Khivans.'³² This deep-rooted distrust of the Kazakhs as 'savages' and 'Muslim fanatics' would have disastrous consequences when the expedition faced its crisis in January 1840.

In June 1839 Perovskii reported that other preparations were proceeding well; despite the poor harvest in the Orenburg region large quantities of *sukhari* (dried bread) and pickled cabbage were being prepared, together with heavy woollen clothing for the soldiers.³³ However the 780 *poods* of compressed gelatine made according to the 'Darset' (Dorset?) process which Perovskii asked for, and which had to be sent from central Russia, could not be prepared in time, and he had to be content with just 200.³⁴ Eventually the expedition would set off with 11,653 *chetverts* of *sukhari*, 3,223 *chetverts* of *krupy* (probably buckwheat), 13,954 *poods* of meat, 3,406 *poods* of salt, 8,286 *vedros* of wine or vodka, salted cabbage and cucumbers, *dumba/ kurdak* (sheep's tail fat) and hog's lard, and onions, pepper, vinegar, honey, horseradish and other anti-scorbutics.³⁵ To this was added fodder for the camels and

³¹ 'Spisok ordyntsev, okazavshykh userdie pri sbore verbludov dlya uchenoi ekspeditsii' n.d. TsGARKaz F.4 Op.1 D.2167 ll.213-219ob

³² Ivanin/Golosov 'Pokhod v Khivu' *V/S* (1863) No.2: 323; Anon *Narrative of the Russian Military Expedition to Khiva*: 96.

³³ Perovskii to Chernyshev 24/06/1839 Serebrennikov *Sbornik* Vol.I Doc.51: 78-81

³⁴ Perovskii to Chernyshev 29/06/1839; Chernyshev to Perovskii 25/07/1839 Serebrennikov *Sbornik* Vol.I Docs 54, 65: 83, 103

³⁵ Ivanin/Golosov 'Pokhod v Khivu' *V/S* 1863) No.2: 335; Anon *Narrative of the Russian Military Expedition to Khiva* p.108; M. Ivanin *Opisanie Zimnego Pokhoda v Khivu v 1839-40g* (St Petersburg: Tip. Tov. 'Obshchestvennaya pol'za', 1874): 63-4; 1 *pood* = 16.4kg; 1 *chetvert* = 210l; 1 *vedro* = 12.3l.

horses – another 130,000 *poods* (2,100 tonnes) of flour, oats and hay;³⁶ each camel must thus have been carrying at least 18 *poods* (300kg), whereas by the 1860s the standard load for a camel on a military expedition in Orenburg was just 15 *poods*, and in Siberia just 10.³⁷

Colonel E. M. Kosyrev recalled the troops grumbling at the lack of vodka, although it was clearly listed amongst the expedition's provisions. The great Russian lexicographer Vladimir Dal', who accompanied the expedition in his capacity as Perovskii's secretary, certainly had access to some vodka, as he used it to play a trick on one of the scientists accompanying the expedition by making it appear that the snow had caught fire.³⁸ The men were also provided with immense quantities of warm clothing, much of it imitated from the winter wear of the Kazakhs. Kosyrev later reminisced that once wrapped up in their many layers of swaddling, greatcoats, Kazakh woollen underpants, black broadcloth caps with visors and enormous felt boots: 'the soldiers were awkward and fat to the point of ugliness, and with a mask and a weapon in the left hand a soldier had already entirely lost his human form.'³⁹

Despite the vast number of camels and the other preparations for the expedition, there was one commodity which could not be carried in anything like sufficient quantities, and that was water. It was largely for this reason that Perovskii made the fateful decision to launch the expedition in winter, when there would be snow to supply this deficiency. In this he was taking a calculated risk. The Russians were well aware of the probable effects of intense cold and wet, not only on the soldiers, but on their transport. As Ivanin later wrote, one of the difficulties the Russians encountered was that:

'As camels cannot endure cold, dampness and wet, they are mostly kept in the southern part of the Steppe. This would naturally retard and render more difficult the collection of camels and their transmission to Orenburg, the more so, as the southern Kirgiz tribes were less under Russian subjection than those in the north, being more amenable to the influence of Khiva.'⁴⁰

³⁶ Ivanin/Golosov 'Pokhod v Khivu' *VJS* (1863) No.2: 357; Anon *Narrative of the Russian Military Expedition to Khiva*: 125; If these figures are accurate, then assuming that each camel carried a maximum load of 300kg, over 7,000 of them were carrying fodder alone.

³⁷ Miliutin to Duhamel 09/02/1864 A. G. Serebrennikov *Turkestantskii Krai. Sbornik Materialov dlya istorii ego zhivoevaniya* (Tashkent: Tip. Turk. Voennago okruga, 1914) Vol.XVII 1864g Ch.I Doc.20 p.45. While Leonard wrote that Bactrian camels could carry heavier loads than dromedaries, he did not believe the 'Brobdingnagian' figure of 480 – 880lbs (200 – 400kg) which Russian accounts of steppe expeditions claimed (*The Camel*: 205), but this suggests it was not so far from the truth.

³⁸ 11/01/1840 Dal' 'Pis'ma k druzyam' *RA* (1867) Vyp.4: 618; E. M. Kosyrev 'Pokhod v Khivu v 1839 godu (Iz zapisok uchastnika)' *Istoricheskii Vestnik* (1898) No.8: 539-40

³⁹ Kosyrev 'Pokhod v Khivu': 539

⁴⁰ Ivanin/Golosov 'Pokhod v Khivu' *VJS* (1863) No.2: 349; Anon *Narrative of the Russian Military Expedition to Khiva*: 118

Had the Russians been in any doubt about the effects of cold and wet weather on the camels, their Kazakh guides and drivers would have told them. Already in September there were signs that the winter ahead would be an exceptionally harsh one. As Sultan Yusuf Nuraliev,⁴¹ head of the middle section of the Orenburg Kazakhs, wrote:

'With the onset of cold and foul weather for the camels under my jurisdiction, collected from the *Nazarovtsy*, hide blankets are essential, for their protection against frost and rain, which is what the Kirgiz usually use to save their camels from falling victim, when they meet severe or cold weather. And as here there are no hides, so it would be desirable for the frontier commission to order the delivery of these camels to the Line or directly to the Commission, as otherwise there could be severe losses amongst them.'⁴²

The illustrations accompanying Ivanin's account show that the expedition's camels would indeed be provided with heavy leather jackets, giving them the appearance of oddly-shaped pantomime horses. Nevertheless, the whole expedition was a gamble on the weather. As somebody (possibly Dal') put it in a hastily-written note on the expedition's departure:

'With our arrival on the Ust-Yurt, pray that there will be snow, but not too much; that the ground will not be frozen; that the storms will not last too long; do not worry about frost in calm weather, but in general, for all that they are animals and not Christians, pray for the camels as you would for us sinners; without them there is no salvation for us.'⁴³

III – The Road to Aq Bulaq

Dal's letters are probably the most vivid testimony we have of the hardships of the march as it progressed. In them we can trace the deteriorating condition of the camels, and with it the expedition's chances of success. Dal' was well aware both of the dependence of the expedition on its camels, and its subsequent dependence on Kazakh drivers to manage them, not least because they had to clear away the snow before they could eat. He expressed some misgivings about this, but concluded that there had been surprisingly few desertions.⁴⁴ He described how even in the early stages, fuel was so scarce that they were burning 'the fresh dung from underneath the camels.'⁴⁵ They rose at 2am, travelled for 15-23 *versts*,⁴⁶ and

⁴¹ Nuraliev's *Formulyarnyi Spisok* (record of service) reveals that he held the honorary rank of *Voiskovoi Starshina* and was 53 years old in 1839, having been in Russian service since 1830. TsGARKaz F.4 Op.1 D.1635 in B. T. Zhanaev (ed.) *Istoriya Kazakhstana v russkikh istochnikakh XVI-XX vekov* Vol.VIII ch.2 *O pochetneishikh i vliyatel'neishikh ordynsakh* (Almaty, 2006) Doc.217: 17-20

⁴² Sultan Yusuf Nuraliev to Gens 9/09/1839 TsGARKaz F.4 Op.1 D.2167 l.126

⁴³ A letter without addressee or signature, probably from Vladimir Dal', Orenburg 18/11/1839 Serebrennikov *Sbornik* Vol.I Doc.119: 191.

⁴⁴ 21/12/1839; 23/12/1839 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.3: 417, 424-5

⁴⁵ 05/12/1839 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.3: 407-8

⁴⁶ 1 *versta* is 1.06km.

then unloaded the camels and horses and turned them loose for 1½ to 2 hours to allow them to forage, having cleared away as much snow as they could from the ground.⁴⁷ On the 8th

December the column ran into a terrible storm which halted the march altogether

'The heavens are dull, the sun swims in a sort of semi-transparent dusk, pale and colourless. The horses stand in their frozen leather blankets as if in armour, hanging their heads and waiting for oats, their manes hanging down in icicles, drifts of snow cover their backs, the camels lie like dead things on their bedding, one alongside the other, like bales, like giant bundles or trunks, they chew what they ate yesterday, and today God willing!'⁴⁸

Two weeks later Dal' wrote that almost a fifth of the camels were already sick and unfit to work, and a couple of days after that he estimated that even including the sick, the expedition only had 8,000 of the 10,400 camels it started with. The force halted for almost a month at the fortification on the Emba, where an attempt was made to recover the strength of men and beasts whilst waiting for a break in the weather, but none came. The column was dependant on Kazakhs not only for transport, but also for its communications with Orenburg, which were carried by Kazakh messengers. By late December these too were coming under severe strain:

'In carrying out the request of the authorities I sent out at different times several Kirgiz [Kazakhs] in the wake of the force which has set out into the Steppe with the Orenburg Military Governor and his companions, in order to take to them items and despatches sent from Orenburg; but up until now not one of these envoys has returned. [...] because of the great distance and because of the powerful storms and still more because of the emptiness in this expanse between my camp and the Aty-Yakshi *auls* [nomadic settlements] near the fortress, constructed on the branch of the river Emba, these Kirgiz who were sent ahead may have lost their lives and thus also have lost state property. [...] All those whom I had prepared to carry designated packages have already been sent after the force which set out into the Steppe. Now the Kirgiz ask me to represent to the view of the authorities that they give us an exemption from undertaking such hardships, owing to the distance and *au*-lessness of these places.'⁴⁹

Throughout his later memoir of the expedition Ivanin referred often to the possibility that the Kazakhs on whom the force relied for the management of its camels might mutiny or go over to the Khivans, largely because he assumed they favoured their Muslim co-religionists.⁵⁰ Matters did come to a crisis when the columns prepared to move off from the fortification at Aty-Yakshi on the river Emba, which they had only reached with the greatest difficulty, through still deeper snow to the advanced post at Aq Bulaq.

⁴⁷ 05/12/1839 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.3: 408-9

⁴⁸ 08/12/1839 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.3: 411

⁴⁹ Sultan Yusuf Nuraliev to General Gens 22/12/1839 TsGARKaz F.4 Op.1 D.2167 ll.265-6

⁵⁰ Ivanin/Golosov 'Pokhod v Khivu' VS (1863) No.2: 324-5; Anon *Narrative of the Russian Military Expedition to Khiva*: 97

'Rumours had spread amongst the *Kaisaki* [Kazakhs] about the closeness of the Khivan forces in overwhelming numbers, about the uniting of the Kokand troops with them & c. The enemy's spies made use of this, it would seem, and sought to shake their nerve with terrible threats from the Khivan Khan and with the undoubted preponderant numbers of his forces. In consequence of this the camel drivers of the whole column, more than 300 people, at the very moment of departure positively and unanimously stated that they would go no further, but would return with the camels to their *auls*. Every exhortation was in vain; I exhausted every spoken persuasion, but succeeded in nothing. The suggestions of Sultan-ruler Aichuvakov also had no effect. The crowd grew larger, noisy groups summoned their comrades; the disorder grew from minute to minute. [...] As Kirgiz [Kazakhs] from other columns began to join the crowd I had it surrounded, and told them that they would all be shot if they persisted in this disobedience. To this some of the most vehement, coming forward, stated that they were all prepared to die, but that to go on was against their faith, and that caravans never travelled when there was such a frost.'⁵¹

Two of the ringleaders were shot, and the crowd dispersed. When Perovskii reminisced about this incident while trying to recover his health in Rome, he remembered it as an instance of Islamic 'fanaticism',⁵² an interpretation echoed in several other Russian accounts of the 'mutiny' and subsequent executions: most of these argue that Perovskii's decisive action saved the column from being stranded in the steppe by unreliable Kazakh allies. In his later account Ivanin attributed the rebellion to Kazakh 'fanaticism' stimulated by Khivan propaganda. His description of this incident is clearly based on Perovskii's official despatch, and in places echoes it almost word for word. However, he placed a greater emphasis on Khivan machinations and the 'wild shouts' of the Kazakhs, and said nothing about the more practical objections of the drivers to proceeding any further.⁵³ The Polish exile Peslyak testified that it was the freezing conditions that caused the Kazakh drovers to try to halt the expedition, although he also wrote that after two had been shot 'as an example' the rest then carried on with 'Asiatic fanaticism' and fatalistic indifference to life.⁵⁴ Dal', however, says that the Kazakhs claimed the camels were simply not up to the journey.⁵⁵ There is also a contradiction between what Perovskii originally reported the Kazakhs to have said, and the reasons he and Ivanin then adduced for the mutiny. It seems clear that it was the sheer insanity of trying to travel in the steppe under such conditions that had aroused the drivers to such a dangerous step, not fears of a possible Khivan attack.

⁵¹ Perovskii to Chernyshev, 06/01/1840 A. G. Serebrennikov *Sbornik Materialov dlya istorii zavoevaniya Turkestanskogo Kraya* Vol.II 1840g (Tashkent: Tip Shtaba Voisk Turkestanskogo Voennogo Okruga, 1912) Doc.4: 3

⁵² 'Pis'ma grafa V. A. Perovskago k A. Ya. Bulgakovu' *RA* (1878) No.7: 314

⁵³ Ivanin/Golosov 'Pokhod v Khivu' *VS* (1863) No.3: 32-3; Anon *Narrative of the Russian Military Expedition to Khiva*: 149; Ivanin *Opisanie Zimnego Pokhoda*: 125-6

⁵⁴ Peslyak 'Zapiski': 586

⁵⁵ 27/12/1839 Dal' 'Pis'ma k druzyam' *RA* (1867) Vyp.3: 430-1

Despite these growing difficulties, at the beginning of January, as the force advanced to Aq Bulaq, Dal' was still full of bombast, writing that 'the camels cannot perish suddenly; we may lose a third on the way, or a half – and we will carry on until the last',⁵⁶ but just three days later he was forced to admit that the camels were now so tired, and progress so slow that 'if we are going to move *like this*, then we will never reach it. Only yesterday, with a grieving heart, was I forced to accept this sad truth.'⁵⁷ It was not until three weeks later, however, that Perovskii finally admitted that they could advance no further, and announced to the force that they would retreat to the Emba.⁵⁸ Two days later Dal' wrote that a further 2,000 camels had perished since advancing to Aq Bulaq – he quoted the Kazakh camel drovers as saying that many of the beasts supplied to the Russians had been sickly in the first place.⁵⁹ Perovskii himself wrote to his friend Bulgakov from Aq Bulaq the following day that 'The expedition has failed completely – our camels, who were not sustained by the moral force which had made us advance up to the *ne plus ultra* [!], have become enfeebled with frightening speed; we have lost more than a half, and the remainder have definitively refused to march with their loads.'⁶⁰ On the return march from Aq Bulaq to the Emba thousands more camels died, and Dal' wrote that of those which were left, only 700 were fit, and he did not expect them to last long. The remainder were all invalids, many suffering from frostbitten legs and feet despite having been shod with warm boots. Mortality among the men was also high – among the 2,930 infantry four hundred, or one seventh, were already dead.⁶¹ Sultan Bai Muhammad Aichuvakov was sent out to round up as many camels as he could from the neighbouring Kazakh groups, and Perovskii wrote to Orenburg to urgently request that at least another 3,500 be rounded up and sent to the expedition's aid, but this proved extremely difficult.⁶² As he wrote a month later, revealing both the desperate straits

⁵⁶ 08/01/1840 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.4: 612

⁵⁷ 11/01/1840 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.4: 615-6

⁵⁸ 'Prkaz po otryadu voisk Khivinskoi ekspeditsii' 01/02/1840 Serebrennikov *Sbornik* Vol.II Doc.22: 42 & Ivanin/Golosov 'Pokhod v Khivu' VS (1863) No.3: 49; An English translation of this document can be found in Anon *Narrative of the Russian Military Expedition to Khiva*: 165-6

⁵⁹ 03/02/1840 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.4: 624

⁶⁰ 'Les chameaux, qui n'étaient pas soutenus par la force morale qui nous a fait avancer jusqu'au *ne plus ultra*' Perovskii to Bulgakov 04/02/1840 'Pis'ma grafa V. A. Perovskogo k A. Ya Bulgakovu' RA (1878) No.7: 307.

⁶¹ 21/02/1840 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.4: 636-7

⁶² Perovskii to Chernyshev 20/02/1840 Serebrennikov *Sbornik* Vol.II Doc.33 p.57; Ivanin/Golosov 'Pokhod v Khivu' VS (1863) No.3 pp.52-3; Anon *Narrative of the Russian Military Expedition to Khiva* pp.168-70; 08/03/1840 Dal' 'Pis'ma k druzyam' RA (1867) Vyp.4: 638

his force was in, and the degree of coercion which had been required to secure the necessary camels in the first place:

'When the means and strength of this region were still fresh, and not used up, it was only with great difficulty that over eight months in place of the 12,000 camels we had demanded, we gathered 10,400. These camels, hired for fairly negligible rates, or, to be more accurate, demanded, have perished; out of them only about a tenth have survived; the loss has been so significant, that it extends to a million and a half [roubles], and the nomads [*ordyntsy*], of course, are unwilling to submit to a similar transaction and now it will be essential to send light military forces into the steppe for the purpose.'⁶³

In the same letter, however, he stubbornly continued to insist that late autumn and winter were still the only time when campaigning in the steppe was possible.

The remnants of the Khiva expedition would eventually limp home at the beginning of July 1840: 1,054 soldiers (and an unknown number of Kazakh drivers) had been 'buried on the steppe', and of those who were left over 600 were suffering from scurvy and the after-effects of frostbite: Kosyrev describes horrendous scenes in the military hospital at Orenburg, where the smell of rotting flesh rose from the bandaged stumps of their limbs.⁶⁴ He also attests to the devastating human impact the heavy mortality had in the small, highly militarised community of this frontier town. It is not clear what the effects of the camel holocaust were on the overall camel population of the steppe: in 1900 there were approximately 470,000 camels in the four northern steppe *oblasts*, but it is very difficult to project this back fifty years.⁶⁵ In the early 1860s, when there was a boom in trade between Russia and Central Asia owing to increased demand for raw cotton during the American Civil War, between 15-25,000 camels arrived annually in Orenburg bearing goods from the South.⁶⁶ The volume of Russian trade with Central Asia was substantially higher in those years than it had been twenty-five years previously,⁶⁷ so the 10,000 camels lost in 1839-40 were probably the equivalent of or slightly more than the total number engaged in the caravan trade with Orenburg over an entire year. In 1845, when Governor-General Obruchev instructed the Orenburg Frontier Commission to secure 1,000 camels with

⁶³ Perovskii to Chernyshev 21/03/1840 Serebrennikov *Sbornik* Vol.II Doc.60: 98

⁶⁴ Kosyrev 'Pokhod v Khivu': 543-4

⁶⁵ V. P. Semenov (ed.) *Rossia. Polnoe Geograficheskoe opisaniie nashogo otechestvo*. Vol.XVIII *Kirgizskii Krai* (St Pb.: Izd. A. F. Devriena, 1903) p.241.

⁶⁶ 'Otchet Nachal'nikov Orenburgskogo Tamozhennogo Okruga' 1860, 1861, 1862, 1863 Russian State Historical Archive, St Petersburg (RGIA) F.19 Op.3 D.961 l.299; D.962 l.287; D.963 l.295; D.964 l.28.

⁶⁷ M. K. Rozhkova *Ekonomicheskie svyazi Rossii so Srednei Azii 40-60e gody XIX veka* (Moscow: Izd. AN SSSR, 1963): 58-69

Kazakh drivers to carry supplies to the new fortresses the Russians had constructed on the Irgiz and Turgai rivers, they faced immense difficulties in finding enough of them, as the shortage was still acute.⁶⁸

As a justification for the Russian decision to retreat from Aq Bulaq, the standard published account of the expedition referred to the British retreat from Kabul in the winter of 1842 as an example of what can happen to an exhausted and demoralised army set upon even by a militarily inferior enemy.⁶⁹ What this did not acknowledge, however, was that while the failure of the expedition was perhaps inevitable, given the climatic conditions, Perovskii's refusal to listen to his Kazakh drivers when they urged him to turn back at the Emba hugely increased both the human and animal cost of this failure. By the time he himself decided to retreat a month later, half his camels were dead and the rest dying, while a third of his men were also either dead or incapacitated by frostbite and scurvy.

IV – Collecting Camels for the Army of the Indus

By comparison with the sad fate of the Khiva expedition, the invasion of Afghanistan⁷⁰ would appear to have been a logistical triumph. Although the main column of the Army of the Indus also had to pass through some hostile and relatively barren territory on its route through Sindh, the Bolan Pass, Qandahar, Ghazni and Kabul, 21,000 troops made the march with only negligible casualties: there were attacks by Baluchi raiders on the column, and a few officers and men, both British and Sepoys, died of heat-stroke – one group after 'they lost their way, halted under a tree and imprudently drank brandy to refresh themselves'⁷¹ – but no serious casualties. Lord Auckland's great enterprise enjoyed the incomparable advantage over the Khiva expedition of setting out from the rich province of Punjab, and, after some difficulties in negotiating a suitable treaty, from the assistance of that region's canny ruler, Ranjit Singh, in securing supplies and beasts of burden on a scale

⁶⁸ Obruchev to the Orenburg Frontier Commission [O.P.K.] 25/07/1845; O. P. K. To Obruchev 09/08/1845 TsGARKaz F.4 Op.1 D.2344 ll.1-*ob*, 36-47.

⁶⁹ Ivanin/Golosov 'Pokhod v Khivu' VS (1863) No.3:47-8; *Anon Narrative of the Russian Military Expedition to Khiva*: 164

⁷⁰ This term was used inconsistently even by the British, who often referred instead to the 'Kingdom of Caubul' and Kandahar as discrete political units: see Shah Mahmoud Hanifi *Connecting Histories in Afghanistan. Market Relations and State Formation on a Colonial Frontier* (Stanford: Stanford University Press, 2011): 18-19. However, it did have contemporary currency (cf. the note below) and is used here for the sake of convenience.

⁷¹ Secret News Letter from Bombay 26/06/1839 'Indian Papers. Papers relating to the War in Afghanistan' *Parliamentary Papers* [PP] (1840) Vol.XXVII.137 No.9: 10

Perovskii could hardly have dreamed of.⁷² Much of the money to pay for all this was borrowed from Indian bankers, who provided extensive credit lines to the Government of India of a kind that simply did not exist in Central Asia:⁷³ for instance, when Dr R. B. Lord was instructed by Captain Wade, the Company's political agent at Ludhiana, to pay the first subsidies to the Khyber chiefs in 1838 to smooth the way for the smaller Anglo-Indian expeditionary force which accompanied Shahzada Muhammad Timur, he was given 'letters of credit on Lala Nor Saug Das, Shikarpuri, at Amritsar, to enable you to draw any sums of money that you may require on your present mission, not exceeding the sum of Rupees Fifty Thousand.'⁷⁴ In the longer term this reliance on Indian credit would prove a weakness, as the huge sums advanced to Major Eldred Pottinger in the final, desperate days of the British occupation of Kabul in late 1841 almost bankrupted the East India Company.⁷⁵ In the short term, however, it smoothed the army's path. The British paid lavishly and reliably for their supplies (and the army of the Indus caused severe inflation of food prices wherever it went) but there was also a powerful political logic to the Sikh ruler's support. Ranjit Singh not only set high store on his alliance with the British in itself, he also stood to gain substantially if Shah Shuja could be fully restored to his throne, as the exiled Afghan ruler had twice signed treaties recognising the Sikh conquest of Peshawar, which Dost Muhammad bitterly resented and refused to accept.⁷⁶ Accordingly the minister and chronicler of the Sikh *darbar*, Lala Sohan Lal Suri, recorded the passage of the army of the Indus primarily in terms of the items provided for its consumption:

'A letter from the Sahibs and a submission by Fakir Shah Din were studied. It was revealed that at the time of the entry of the Sahibs and Shuja-ul-Mulk into Ferozepur the following quantities of the articles would be required:

Fowls 1,00,000 [1 *lakh*]; wheat 20,000 maunds;⁷⁷ gram [chickpeas or yellow lentils] 60,000 maunds; *Mooth* [mung beans] 5,000 maunds; grinding stones 3,000; milk 1,500 maunds; broken *Mash* [black lentils] 3,000 maunds and fuel wood 40,000 maunds.'⁷⁸

⁷² Yapp *Strategies*: 249-50

⁷³ Lala Sohan Lal Suri *An outstanding original source of Punjab History, Umdat-ut-Tawarikh. Daftar III, Parts i-v. Chronicle of the reign of Maharaja Ranjit Singh 1831-1839 A. D.* trans. & ed. V. S. Suri (Delhi: S. Chand & Co, 1961) ff.17-18: 540

⁷⁴ Wade to Lord 01/09/1838 National Archives of India (NAI)/Foreign/S.C./3rd April 1839/Nos.30-31 *Dr Lord Instructed to Conciliate the Khyber Chiefs* p.22

⁷⁵ Hanifi *Connecting Histories in Afghanistan*: 82-3

⁷⁶ Both the 1833 and 1838 treaties between Shah Shuja and Ranjit Singh (with the East India Company also a party to the latter) are printed in 'Indian papers. Copy of the treaty with Runjeet Sing and Shah Shooja-ool-Moolk, concluded at Lahore, 26 June 1838, &c.' *PP* (1839) Vol.XL.29 No.1: 1-8

⁷⁷ The maund (*man*) is a traditional Persian measurement of weight for dry goods, which in India was standardised by the British at roughly 80lbs (36.2kg)

Subsequently the army was to be supplied with 15,000 eggs and 4,000 chickens per day, whilst Lord Auckland also ordered that a further 50,000 maunds of grain, with camels and oxen to carry it, should be collected for the army's onward march. Another 50,000 maunds would be sent downriver from the Punjab by boat to meet the army at Shikarpur, despite the objections of the Amirs of Sind, within whose territory this lay.⁷⁹ Auckland's own correspondence with the Secret Committee of the East India Company notes the success of these arrangements, and he added further that the Government granaries of the Sikh kingdom at Multan were opened to his forces. However, in reviewing the commissariat arrangements Auckland also referred to:

'The difficulty in procuring a large number of camels has been very much greater than had ever been apprehended. I transmit transcript of a letter of the 3d February from the Deputy Commissar General with the Bengal column [...] It will be observed, that he looked to having (together with a perfect abundance of provisions) above 27,000 camels at command, which would be sufficient for the carriage of about 2½ months' supply of grain for a force of the strength of the Bengal division. With this number, which may be all expected to have assembled at Shikarpore by the middle of March, an adequate force for the enterprise will, I have every confidence, be efficiently provided; yet many of the camels are reported have been in a sickly and weak condition, and this branch of the commissariat must continue to be a subject of constant anxiety and watchfulness. I have [...] urged the purchase and despatch of camels from all quarters towards Shikarpore. I indulge a strong hope that a considerable supply will, at no distant date, be procurable from the Afghan provinces themselves.'⁸⁰

As in Central Asia, so in India, the use of camels in warfare had a long history, although here they were single-humped dromedaries rather than the double-humped Bactrian variety.⁸¹ Together with bullocks they were what gave the armies and courts of Northern India their mobility, employed both as baggage carriers and as draught animals to haul artillery. They were capable of carrying loads of 150-300kgs over long distances, required little or no fodder in all but the harshest environments, and could travel up to 30km in a day, although in Northern India in the 18th century the more usual march of an army in battle array was no more than four *kos* (about 15km).⁸² Like their Mughal and Rajput

⁷⁸ Suri *Umdat-ut-Tawarikh* Part v ff.16-17: 539

⁷⁹ Suri *Umdat-ut-Tawarikh* Part v f.101: 622

⁸⁰ Auckland to the Secret Committee 13/03/1839 *PP* (8th June 1859) Vol.XXV.7 No.1: 311

⁸¹ The Government of India's leading camel specialist in the early 20th century noted that Bactrians were occasionally seen in India, but only for breeding purposes, as when crossed with dromedaries they produced particularly hardy hybrids: A. S. Leese *A Treatise on the one-humped camel, in health and in disease* (Stamford: Haynes & Son, 1927): 10-11

⁸² Jos Gommans *Mughal Warfare. Indian frontiers and highroads to empire, 1500-1700* (London: Routledge, 2002): 126; R. K. Saxena *The Army of the Rajputs* (Udaipur: Saroj Prakashan, 1989): 319

predecessors, the British also relied to some extent on pastoral groups in North-Western India who bred camels especially for military and transport purposes.⁸³ Historians have focused on the Lohanis (also known to the British as Powindahs), a semi-nomadic Pashtun tribe who controlled the trade route through the Bolan Pass from Shikarpur to Qandahar that the Army of the Indus would follow, and they are described in numerous contemporary sources as the main agents for transport between Sind, Punjab and Afghanistan.⁸⁴ Auckland did indeed write to the Lohani merchants Sarwar Khan and Amir Khan in September 1838, informing them that the British intended to place Shah Shuja on the throne of Kabul, and asking them to offer Alexander Burnes, who had been placed in charge of the commissariat arrangements at Shikarpur, any assistance that they could.⁸⁵ In July 1839 Sarwar Khan Lohani arrived in Shikarpur with 3,000 camels of his own and another 1,500 purchased by the Government of India, and was commended for his loyalty. However the quantity of camels needed was greater than the Lohanis alone could supply – in the letter reporting Sarwar Khan's arrival Brigadier-General Gordon complained that a large proportion of the camels already gathered there were not fit for work, and that 'this has absorbed every serviceable camel in Upper Sindh'.⁸⁶ Auckland wrote simultaneously to Amir Nur Muhammad Khan of Hyderabad, Mir Rustum Khan of Khayrpore, the Khan of Kelat,⁸⁷ the Rawal of Jaisalmer and the Maharajah of Bikaner requesting similar assistance.⁸⁸ In the case of the latter further local corroboration can be found. The British had obtained camels in Bikaner before the demands of the Afghan invasion, but their purchases seem to have been quite small, in 1832 amounting to just seven camels from the market at Ratangarh.⁸⁹ However in 1838 the *Kagad*

⁸³ I. Köhler-Rollefson 'The one-humped camel in Asia: origin, utilization and methods of dispersal' in D. Harris (ed.) *The origins and spread of agriculture and pastoralism in Eurasia* (London: UCL Press, 1996): 282-94

⁸⁴ Scott Levi 'Multanis and Shikarpuris. Indian Diasporas in Historical Perspective' in Gijsbert Oonk (ed.) *Global Indian diasporas: exploring trajectories of migration and theory* (Amsterdam: Amsterdam University Press, 2007): 40-1; B. D. Hopkins *The Making of Modern Afghanistan* (Basingstoke: Palgrave Macmillan, 2008) p.122; Hanifi *Connecting Histories in Afghanistan*: 67-76.

⁸⁵ IOR/L/PS/5/133 *Governor-General's Despatch to the Secret Committee No.23* 24/09/1838 p.331 No.96 *To the Lohanee Merchants* 6/09/1838

⁸⁶ Wm Gordon, Brigadier Commanding in Upper Sind, to W. H. Maddock, Camp Sukkur 17/04/1839 NAI/Foreign/S.C./10 July 1839/77 – 78 *Report on grain and cattle collected at Shikarpur* p.3

⁸⁷ NAI/Foreign/S.C./14 Nov. 1838/55-8 *British Force to be concentrated at Shikarpore* 06/09/1838

⁸⁸ 'To the Rawul of Jussulmere & the Rajah of Bickaneer' 6/09/1838 India Office Records (IOR)/L/PS/5/133 *Governor-General's Despatch to the Secret Committee No.23* 24/09/1838 p.329 No.95

⁸⁹ Rajasthan State Archives, Bikaner (RSA) Vir Samvat (V.S.) 1889 [AD 1832] *Kagad Bahi* No.38 f.2a. My profound thanks to the Assistant Director of the Archive, Dr Poonam Chand Joiya, for transcribing these documents from Rajasthani into modern Hindi, and taking the time to go through them with me.

Bahi and *Jagat Bahi*⁹⁰ records of livestock sales in Bikaner reveal an unusual flurry of activity, as agents of the British (*Angrez Havaldar*) purchased 250 camels in the bazaars of Hanumangarh and its surrounding villages for despatch to Shikarpur,⁹¹ with another 50 in Anupgarh,⁹² while in Ratangarh 50 'were gathered by the agent of the Sindh Muslims' (*Sindh ke Musalmanon ki dalali*), presumably for the same destination,⁹³ and 25 were reported to be coming from Ajmer, where the British superintendent had been instructed to honour any banker's drafts presented by Burnes's purchasing agents up to a value of one lakh of rupees.⁹⁴ The price varied, but averaged approximately 25 rupees per camel. Alongside these purchases, the Maharajah of Bikaner supplied 200 camels from his own stables (*Shuturkbana Huzuri*),⁹⁵ although in December 1838 the British agent in Rajputana reported to Burnes that 'I this day had a conversation with the Bickaneer Vakeel, Hindoo Mull, who had before (with his usual zeal and intelligence) written to prepare his Prince for the demand; and am happy to say that he gave me hopes of 2,000⁺ camels at least being shortly forthcoming, through his means, at a hire, he supposes, considering the service, of 9 or 10 rupees per mensem'.⁹⁶ Even if these did not materialise, this Rajput state must have supplied at least 575 camels in less than half a year, and it is always possible that other transactions went unrecorded. Meanwhile the British confidently expected to be able to get 5,000 camels from the territory of Bahawalpur,⁹⁷ and 1,200 were brought from as far away as Cutch and Gujarat;⁹⁸ this was still not sufficient. Burnes wrote in December 1838 that 'after three references to the Chief of Jussulmer for Camels, he has sent to us eight hundred at the enormous hire of 15 rupees per month. Any further attempts are not likely to be more successful, tho' I have sent half a lac of rupees to the Ruwul and requested him to make purchases to that extent. My object in addressing you is to procure camels to the extent of six thousand for hire or purchase and

⁹⁰ Kagad Bahi documents (from the Persian *kaghaẓ* - paper) related to revenue administration and orders issued by the *Dewan* (first minister) of Bikaner. Jagat Bahi documents (from the Arabic *zakat*, the Islamic tax on 1/40th of the value of goods traded) related to trade routes and markets. J. K. Jain (ed.) *Descriptive List of Bikaner Bahis (from the 17th to 19th Century* Part I (Bikaner: Rajasthan State Archives, 1982) pp.i – vii.

⁹¹ RSA V.S. 1895 [AD 1838] Kagad Bahi No.6 ff 40B, 74, 83, 92b, 117

⁹² RSA V.S. 1895 Kagad Bahi No.14 f.58b

⁹³ RSA V.S. 1895 Jagat Bahi No.164 ff.115-6

⁹⁴ RSA V.S. 1895 Kagad Bahi No.45 f.99a; To the Off. Supt. At Ajmere 06/09/1838 IOR/L/PS/5/133 *Governor-General's Despatch to the Secret Committee No.23* 24/09/1838 p.343 No.102

⁹⁵ Anon *The House of Bikaner* (Bikaner: Government Press, 1933): 173

⁹⁶ N. Alves, Agent in Rajpootana, to Burnes 24/12/1838 NAI/Foreign/S.C./20 Mar. 1839/103 p.3

⁹⁷ Torrens to Mackeson 26/12/1838 NAI/Foreign/S.C./27 Feb. 1839/53 p.1

⁹⁸ Keane to Auckland 22/01/1839 NAI/Foreign/S.C./20 Mar. 1839/102 p.15

that they be sent with all haste to Shikarpoor.⁹⁹ The British searched high and low for other potential sources:

'In the course of conversation yesterday evening with an intelligent Italian gentleman, who has lately traversed Beloochistan and Sindh, and thence journeyed via Dera Ismail Khan, Kalabagh [...] and Kelat, to Peshawur & Lahore, I was given to understand that Camels to any extent are procurable in the vicinity of Bukkur on the left bank of the Indus about 25 miles South of Dera Ismael Khan, and as the natives of that part of the country are in a state of great poverty and wretchedness, at a very low rate.'¹⁰⁰

It is notable that very often the British were *buying* these camels outright, rather than hiring them for the duration of the campaign. This was a decision that had been taken quite early on. Burnes wrote from Shikarpur in November 1838 that

'After a month's delay in endeavouring to hire Camels Lieutt. Scott has resolved on purchasing them & though the outlay at first will be considerable, the plan may in the end prove most economical. The Sindians are not used, as in India, to hire out their beasts of burthen by the month but by the trip, which does not suit the purposes of the army. I am not however altogether without hopes that some Camels may not be hired. The Rawul of Jaysalmeer has kindly promised to send 1,000 & more may perhaps be got from that country but Lieutt. Scott's agents are now actively engaged in purchasing, though sufficient time has not yet passed to know the extent of success. I have, however, to provide against failure, long since written to the Lohanee merchants, & thro' Captain Thomson, I have sent an agent to meet them.'¹⁰¹

Burnes's decision to purchase rather than hiring the camels would be supported by Auckland, and was to have profound consequences for the management of these unfortunate animals. Sir John Keane laid out the logic of this arrangement in a letter to Auckland early in 1839:

'In the opinion your Lordship has expressed, that it is preferable to purchase than to hire camels, not only myself, but also the Resident in Sind and the Bombay Government fully concur – the system of hiring camels is both expensive and unsatisfactory. Their owners might, under a threat of leaving us at a time they supposed their services could ill be spared, demand more hire or play any other trick. We are now making purchases of Camels by degrees, and will go on to a large amount if we can get them. The drivers are brought from the territory under our own rule in India, to take care of them.'¹⁰²

⁹⁹ Burnes to Alves 07/12/1838 NAI/Foreign/S.C./20 Mar. 1839/103 pp.5-6

¹⁰⁰ T. J. Nuthall, Depy Asst. Commissary-General, Camp Ferozepore, to T. H. Maddock, 8/07/1839 NAI/Foreign/S.C./11 Sept. 1839/103 pp.9138-9; This 'Italian gentleman', a Mr Barbieri, seems to have had an adventurous career as a military expert in the service of modernising Asian states. In 1836 Count Simonich, the Russian envoy in Tehran, noted that 'un certain Barbieri' had been responsible for setting up a gunpowder factory for Fateh 'Ali Shah Qajar, and that he had previously worked for Muhammad 'Ali in Egypt: Simonich to Nesselrode 10/01/1836 Archive of the Foreign Policy of the Russian Empire (AVPRI) F.133 Op.469 1836g. D.204 'Dépêches recues de Téhéran en 1836 (Cte. Simonich)' ll.9-*ob*. It is possible that Barbieri was seeking service with Ranjit Singh, who already had a number of Italians in his service, most famously Paolo Avitabile.

¹⁰¹ Burnes to Macnaghten 14/11/1838 NAI/Foreign/S.C./6 Mar. 1839/63 *Camels, arrangements for the supply of* pp.2-3

¹⁰² Sir John Keane to Auckland 22/01/1839 NAI/Foreign/S.C./20 Mar. 1839/102 p.16

Keane's assumption of the disloyalty and untrustworthiness of drivers unless they came from British territory echoes the language used by Perovskii and Ivanin, and this decision would have similarly disastrous consequences. The close relationship between camels and their drivers, who were usually also those who bred and reared them, is attested in much Islamic poetry and hagiography.¹⁰³ As we have seen, Perovskii had realised that camels needed to be managed by those who bred them (even if he ultimately chose to ignore their warnings) and by the late 19th century this was the practice recommended by the standard authorities on the use of camels in warfare: 'Asiatics and the inhabitants of northern Africa get far more out of a camel than we do; in fact there is no comparison, because not only do they depend on him for a living, but for their lives; consequently they take care of him, and do not override, overdrive, or over-pace him.'¹⁰⁴ In 1839 this logic was trumped by the British fear of betrayal. The drivers were instead brought from British Punjab and Gujarat, but contrary to expectations this did not secure their loyalty, as desertions were reported almost from the outset.¹⁰⁵ The fact that drivers were unfamiliar with the particular breeds of camels they were called upon to manage (let alone with individual beasts) would have still more serious consequences.

V – Camel Catastrophe on the Bolan Pass

Despite the thousands of camels brought to Shikarpur in 1838-9, the British still complained constantly of a lack of transport: this was because so many of them died on the journey. As Auckland put it:

'The only drawback to the entire success of the arrangements for the march to the Indus arose from a considerable mortality which unfortunately showed itself among the camels after passing Bahawalpore. A new forage, joined to the fatigues of a protracted journey, proved destructive to many of those most useful animals.'¹⁰⁶

As the Army of the Indus made its way through Punjab, Sind, and up the Bolan Pass to Qandahar, it left a trail of dead and dying camels in its wake that dwarfed even the terrible mortality of the Khiva expedition. James Atkinson, a surgeon in the Bengal army who

¹⁰³ Catherine Mayeur-Jaouen 'Badawi and his camel: an animal as the attribute of a Muslim saint' in Faroqi (ed.) *Animals and People*: 113-128

¹⁰⁴ Leonard *The Camel*: 201

¹⁰⁵ Melville to Pottinger, Bhuj, 10/06/1839 NAI/Foreign/S.C./14 Aug 1839/37 pp.5-6; H. Torrens to Capt. H. M. Lawrence, Officiating Political Agent, Ferozepore 13/06/1839 NAI/Foreign/S.C./ 21 Aug.1839/44 *Camel Drivers to be sent to Shikarpore* p.1

¹⁰⁶ Auckland to the Secret Committee 13/03/1839 *PP* (1840) Vol.XXVII.137 No.9: 4

followed on behind the main column (and whose sketches are some of the most vivid records we have of the British invasion) wrote that around the small town of Khanpur in Bahawalpur state, 'the camels of the columns in advance appear to have perished in great numbers, exhausted no doubt, by one of the longest marches on the road.'¹⁰⁷ Part of the explanation for this apparently lay in the wet weather, which as we have seen is anathema to camels: The Mughals had only bred and used them for warfare in the 'dry' zones of far North-Western India for precisely this reason, as their pads, so well-adapted to sand, slipped helplessly on mud.¹⁰⁸

'Camels are bad travellers in rain, sliding and slipping with their long legs at every step; great numbers fell on the road, and some could not be got up for a long time, even after their loads were taken off; many of the grain camels stopped half-way, unable to go on; loads of hay, grain and camp equipage lay scattered on the road as I passed, the mud fetlock-deep, and worse in many places.'¹⁰⁹

When he reached Sukkur, where the army had crossed the Indus, Atkinson wrote that his tent had to be pitched on the beach, 'as higher up the ground was covered with dead camels, which produced an intolerable stench.' The following morning

'I started at four a.m., and for the first four miles, where the advance columns of the army had halted for a short time, the effluvia from the dead camels in a state of decomposition was dreadful, pungent and foetid beyond description; it exceeded any thing that can be conceived.'¹¹⁰

Severe storms also added to the mortality of camels in the Bolan Pass, and throughout his journey Atkinson 'passed dead camels continually.'¹¹¹ According to Augustus Abbott, an officer who took part in the march, one Brigade was supposed to have lost 2,000 camels in one stage of the march through the Bolan Pass, and by the time the column reached Qandahar Abbott estimated that it had lost no fewer than 20,000 camels, or over two-thirds of the total the British had secured.¹¹² He suggested that many of them were severely overloaded, carrying up to fourteen *maunds* at a time rather than the regulation five. This would make even the regulation military camel-load a hefty 400lbs (190kg) or already above what was normally considered the maximum load for a camel travelling long

¹⁰⁷ James Atkinson *The Expedition into Afghanistan. Notes and Sketches Descriptive of the country* (London: W. H. Allen & Co., 1842): 78.

¹⁰⁸ Gommans *Mughal Warfare*: 14; Leese *A Treatise on the one-humped camel*: 14.

¹⁰⁹ Atkinson *The Expedition into Afghanistan*: 80

¹¹⁰ *Ibid.*: 100-101

¹¹¹ Bombay Govt. to the Secret Committee 08/05/1839 PP (1840) Vol.XXVII.137 No.9: 9; Atkinson *The Expedition into Afghanistan*: 105, 114-5, 125.

¹¹² Charles Rathbone Low (ed.) *The Afghan War 1838-42. From the Journal and Correspondence of the late Major-General Augustus Abbott* (London: Richard Bentley, 1879): 31-2, 73, 76, 84-5

distances.¹¹³ If some of the Army of the Indus's unfortunate beasts were really carrying up to 500kg loads then it is scarcely surprising they collapsed, as the consensus of scholarly opinion appears to be that this is only possible over very short distances.¹¹⁴ The explanation for the number of deaths may also have lain in the British military insistence on marching in single daily stages of sixteen miles. Richmond Shakespeare, after seeing how his Turkmen companions managed their camels and horses on his journey from Herat to Khiva, wrote that 'the native plan of dividing the distance to be crossed in the twenty-four hours into two stages, is a good one; and should another army of the Indus leave India, I think they would find this plan answer. Your camels and your cattle have the cool of the morning and evening for work, and the middle of the day to feed, and they have a good night's rest, instead of being loaded or harnessed in the middle of the night.'¹¹⁵

The death of so many camels on the march prompted an inquiry from the chief veterinary officer. He noted that disease first appeared among the camels just after Bahawalpur, and attributed this to the withdrawal of grain rations from the commissariat transport animals, who were forced to browse on very saline tamarisk and drink brackish water from the Roree. It is possible that this was a factor, as camels can poison themselves in unfamiliar pastures,¹¹⁶ but poor management was almost certainly more important:

'The order of march, laid down by the military authorities from the starting-point of the expedition, was particularly harassing to the carriage cattle of an army moving in a tropical climate. [...] The camels were frequently obliged to halt and stand under their loads, exposed to the sun [...] The baggage seldom reached the new ground before one or two P.M., and the camels, jaded from a tedious and harassing march, were then driven to a considerable distance from the camp in search of forage; at the approach of nightfall, they were brought to camp, after perhaps two hours' grazing,¹¹⁷ and the food thus obtained was not only deleterious in quality but of insufficient quantity. On the 26th of December, I addressed the military authorities on the subject, and urged the necessity of a depot marching over night, under a sufficient guard. I was, however, overruled. [...] The mortality did not, as was expected, disappear after the Army crossed the Indus. The forage on the right bank of the river was of no better quality than the produce of the opposite shore. During the halt of the troops at Shikarpore, the casualties increased to an alarming extent. The camp was surrounded with dead camels, and the effluvia from their carcases, producing a tainted state of the atmosphere, communicated a fresh disease to the surviving cattle. [...]

¹¹³ Leonard considered that the maximum load for a camel on a long march should be 300 – 350 lbs (150kg). *The Camel*: 205

¹¹⁴ E. Mukasa-Mugerwa *The camel (Camelus dromedarius): a bibliographical review* (Addis Ababa: ILCA, 1981): 77

¹¹⁵ Richmond Shakespeare, 'A Personal Narrative of a Journey from Herat to Ourenbourg, on the Caspian [sic] in 1840' *Blackwood's Edinburgh Magazine* 51 (June 1842): 704.

¹¹⁶ Gauthier-Pilters & Dagg *The Camel*: 44-6

¹¹⁷ Leese notes that camels need at least six hours a day to graze: *A Treatise on the one-humped camel*: 60, while Gauthier-Pilters & Dagg write that, left unsupervised, camels will graze for at least 8 hrs a day; *The Camel*: 36.

Through the difficult pass of Bolan, a distance of fifty-seven miles, the cattle found no forage, save the rank and noxious flags growing in the borders of the marshy swamps in the valley debouching from the Pass; the troops crossed the "Dasht-i-be-Dawlut," an immense plain without water, and entered the valley of Shawl, where the food of the camels was confined to "rooknee," or southern-wood, a plant which, though producing different effects, proved no less destructive than the tamarisk to animals unused to it.

After entering the Bolan Pass, the registered variations of temperature on the march, and during the halt of the troops at Quetta, exhibited an average of forty-five degrees between Sun-rise and Sun-rise, or during twenty-four hours, and the cattle were not provided with shelter, or proper clothing to protect them against the injurious effects of the sudden transitions from heat to cold; many of the camels which reached Quetta in good condition, perished from the change of climate.

Some prospect of relief was offered in the month of May, by the springing of the Jawasa plant, the favourite food of camels, but the cattle were then so much reduced, that the improved quality of the forage produced no visible effects on them; and camels recently purchased, and picketted with apparently healthy cattle, caught the contagion, and frequently died from the disease.¹¹⁸

He cited other difficulties, notably the dependence of the army's civilian camp followers on Commissariat supplies, which in turn prevented the carriage of sufficient fodder, but did not explicitly mention the use of hired drivers as a problem (though he did note the much greater care that Afghan camel-owners took to protect their beasts from cold weather). It seems likely, however, that most of the problems he cited, and the corresponding high mortality rate among the beasts under his charge, ultimately stemmed from this fact. This was not simply because, as British military experts would later claim, 'Hired drivers as a general rule are utterly worthless scamps, whose sole knowledge of a camel is to have seen him stalk through the streets of a town of which they are the refuse',¹¹⁹ but because even within India camels are not all alike, being bred for specific purposes. According to the *Siraj al-Tawarikh*, on passing through Bahawalpur Shah Shuja was presented with a *peshkush* of thirty different types of camels by the Nawab.¹²⁰ Even assuming the good will and expertise of the drivers the British had brought in from Gujarat, the chances were that they would be unfamiliar with the particular breed of camel placed under their charge, many of which would be varieties totally unsuited to hilly terrain and a cold climate. Leese noted that plains-bred camels have a longer stride, but weak hindquarters, and that they

¹¹⁸ J. G. W. Curtis 'Report on the mortality among the cattle of the Army of the Indus, and Remarks on the resources of the Countries through which the troops marched' (n.d., Feb 1840) IOR/L/PS/20/G10/3 'Letters from the Governor-General of India in Council to the Secret Committee, June 4, 6, 8, and 11, 1840' *Cabinet Papers* No.37 pp.49-51

¹¹⁹ Leonard *The Camel* 254

¹²⁰ "Shah Shuja ' Marches from Ludhiana to Shikarpur with the English Army ." *History of Afghanistan*. Translated and edited by R.D. McChesney, M. M. Khorrami. (Brill Online, 2013); Muhammad Fayz *Siraj al-Tawarikh* (Kabul, Maṭba'ah-i Ḥurufi Dar al-Salṭanah, 1912 – 1914) p.141

invariably struggle in hilly country, as they are insufficiently sure-footed to cope with the slopes and the stones, and the unfamiliar forage bruises their mouths. Desert camels, such as those of Bikaner, were lighter and finer-boned, but unable to carry very heavy loads, whilst the enormous camels bred in Attock, in Punjab, were slow but could carry loads of up to twelve *maunds* of wood. Sindh Camels had 'a bad reputation amongst military transport men because they are poor hill-climbers and easily succumb to cold.' Overall, Indian camels required frequent watering, as they were bred in districts with numerous rivers or wells, but could carry great weights, while desert camels such as the Kachi camels of Baluchistan had much greater endurance, but could only carry 4-6 *maunds*. However, 'The Powindah camel is another importation from Afghanistan [...] it is a small, hardy, hairy Hill-camel, but is light in bone.'¹²¹ It was these camels that were needed for the terrain through which the Army of the Indus had passed, as the chief Veterinary Officer at the time subsequently concluded:

'The camels bred in Affghanistan are admirably adapted for the transport of burdens over the Ghauts and mountain passes of the country. The compactness of form and shortness of limb of these animals give them a decided advantage over Hindostanee camels in hilly marches; but on level plains, the superior stride of the latter animal enables it to keep up with troops on the march, while the Affghan camel is generally left far in the rear of the column. The country, however, being generally mountainous, the Affghan camels should be preferred for baggage cattle.'¹²²

However, this only became clear with hindsight, and in any case it would have been impossible to secure a sufficient number of camels of the Lohani breed. By the time Leese was writing the Indian army had the benefit of over 100 years' experience using camels as transport (although he noted that it was not until the Somaliland campaigns of 1901-4 that British camel management improved) but in 1838-9 they were still a relative novelty.¹²³

Although the death of so many camels was not as disastrous for the British enterprise in Afghanistan as it was for the Khiva expedition, it did contribute to the substantial supply problems that the army faced in Sindh and around Qandahar. These were exacerbated by the refusal of General Sir Willoughby Cotton, who commanded the contingent of the Bengal army, to wait for the forces from Bombay under Sir John Keane (who outranked him) to come up. The latter column faced extreme difficulties in securing

¹²¹ Leese *A Treatise on the one-humped camel*: 46, 49 – 57.

¹²² J. G. W. Curtis 'Report on the mortality among the cattle of the Army of the Indus, and Remarks on the resources of the Countries through which the troops marched' (n.d., Feb 1840) IOR/L/PS/20/G10/3 'Letters from the Governor-General of India in Council to the Secret Committee, June 4, 6, 8, and 11, 1840' *Cabinet Papers* No.37 pp.51-2

¹²³ Leese *A Treatise on the one-humped camel*: 57.

supplies and transport, and had to advance over country that had already been more or less swept bare.¹²⁴ Matters did not improve when they reached the head of the Bolan Pass.

Atkinson wrote that:

'It was at Quetta that the state of the Army, for want of a sufficient supply of grain and ottah [*atta* – flour] became alarming [...] the rations were at once reduced to half the usual quantity. The European soldier's loaf suffered that diminution, the sepoy's seer of ottah became half a seer, and the camp-follower's half-seer became a quarter [...] it was nearly three months before the commissariat was enabled to supply full rations.'¹²⁵

Atkinson's account is also a reminder that, unlike the Khiva expedition, the Army of the Indus advanced with an enormous train of civilians, the wives and children of sepoys, contractors and other dependants of the army, which swelled still further the number of mouths that needed to be fed: even the small garrison of 740 men at Charikar in Kohistan had a hundred women, forty children and a hundred other assorted camp followers.¹²⁶ These would prove a deadly encumbrance to the army on its final, disastrous retreat from Kabul, but well before this they exacerbated the supply problem. Afghanistan was not as barren as the steppe the Khiva expedition had to traverse, but the presence of such a large force drove up the price of food substantially and placed an immense strain on the country where the troops were quartered. The 3-4,000 British and Indian troops stationed at Kandahar, with the Afghan troops of Shahzada Muhammad Timur and their related camp followers, looted and destroyed crops and raided livestock because commissariat supplies were inadequate.¹²⁷ The resentment this caused, together with price inflation, were amongst the reasons why the Anglo-Sadozai regime in Afghanistan rapidly became so unpopular. The sheer waste and profligacy represented by the deaths of so many camels were also a foretaste of the gigantic cost of maintaining Shah Shuja on his throne over the next three years. Perhaps if the British had taken more care of their camels, there would have been a little more money available when Calcutta's demands for retrenchment helped to provoke the fatal rebellions of 1841-2.

Conclusion

¹²⁴ Yapp *Strategies*: 263

¹²⁵ Atkinson *The Expedition into Afghanistan*: 128

¹²⁶ John Colpoys Haughton *Char-ee-kar and service there with the 4th Goorkha Regiment (Shah Shooja's force) in 1841. An episode of the first Afghan War* (London: Provost & Co, 1879): 29

¹²⁷ M. E. Yapp 'Disturbances in Western Afghanistan, 1839-41' *Bulletin of the School of Oriental and African Studies* 26/2 (1963): 292

The British and the Russians alike chafed at the restrictions on their freedom of movement imposed by dependence on camel transport, and through this on 'native' camel-breeders and drivers. As the railway network slowly spread across India, reaching Peshawar by 1879 and Quetta in 1885, British dependence on camel transport began to diminish. In Central Asia, this transformation took place at more or less the same time: in 1876 General Lomakin, the commandant in Transcaspia (modern-day Turkmenistan) estimated that over 20,000 camels had died on Russian military expeditions against Khiva over the previous four years 'one can imagine what a heavy burden this sad circumstance is on the economic situation of our Central Asian possessions', while the requirements of forage and rest which they imposed also slowed troop movements. To complicate matters further, in Transcaspia it was the Turkmen themselves who were simultaneously the main breeders of camels and the main objects of Russian aggression, and they were understandably reluctant to supply them.¹²⁸ During the 1872-3 Khiva campaign this constraint had compelled the Russians to divide their forces into four different columns, one of which, from Krasnovodsk, was forced to turn back after antagonising the Turkmen along the Atrek, who refused to supply the necessary beasts.¹²⁹ Lomakin urged the construction of a railway to overcome this constraint, and it was begun in 1879, reaching Samarkand in 1888: it played a key role in General Skobelev's final victorious campaign against the Turkmen in 1881. However, the railway came too late for most 19th-century Central Asian campaigns, whether British or Russian. Leese estimated that during the second Afghan War a staggering 70,000 camels died, owing to:

'the privations and hardships which these poor brutes were made to endure, not only by the exigencies of war, but by ignorance and want of experience on the part of the British and neglect by hired Indian drivers, must have been truly awful. Continual overwork without rest, the impossibility of giving the poor brutes time to graze, standing for hours under loads, the neglect of disinterested drivers [*sic*], the use of young immature camels or of aged ones, or of pregnant females, quite unfit for hard work, and of camels from sandy deserts for work in such a country as Afghanistan, were all responsible for the appalling mortality.'¹³⁰

Leonard simply noted of the same campaign 'At times, when I think over all I have gone through, or rather what the unfortunate camels have undergone under my own eyes,

¹²⁸ Lomakin to the head of the Kavkazskoe Gorskoe Upravlenie 20/11/1876 National Archives of Georgia (NAG) F.545 Op.1 D.1255 l.34ob

¹²⁹ Asterabad Consul to Russian Legation, Tehran 25/09/1872 F.5 Op.1 D.2241 ll.275 – 279ob

¹³⁰ Leese *A Treatise on the one-humped camel*: 45

the suffering and torture they have been put to [...] – I can hardly realise that I have witnessed what I have.'¹³¹ Though Lockwood Kipling claimed that 'this was in no wise the fault of the brutal Briton, for the beasts were deliberately sacrificed by their native owners, who were guaranteed compensation for their loss',¹³² even he was forced to admit that British soldiers could under no circumstances be trusted to manage them. Clearly little had been learned in the forty years that separated the two Afghan invasions: the British still had no idea how to manage camels, and did not seek to employ those who had bred them as drivers, the one means of minimising mortality even in wartime conditions. The only difference seems to have been that this time most of the camels were hired rather than bought, leading to a long string of compensation claims from the owners.¹³³ Both Leonard and Leese considered that the French managed things much better in their North African colonies.¹³⁴

When Captain A. N. Kuropatkin (later Skobelev's chief of staff, then Governor of Transcaspia and finally Minister of War 1897-1905) produced a report on his official mission to the French Army in Algeria in 1874, he also commented admiringly on the French system of maintaining a permanent force of 800 camels for desert expeditions, and compared it unfavourably with the system of temporary requisitions in place in Turkestan.¹³⁵ His mission there followed swiftly after the second Russian expedition against Khiva in 1873, which this time was successful, but which endured great logistical difficulties and saw similarly huge mortality in camels. The preparations for the expedition prompted General M. I. Ivanin, Perovskii's former commissariat-master, to send a memorandum to the War Ministry urging a new system for the recruitment of camels which revealed that the frustrations of 1839-40 were still keenly felt, but that the real lesson of the campaign – the need to listen to the expertise of the Kazakh pastoralists who bred and managed the army's pack animals – had not been learned:

¹³¹ Leonard *The Camel*: 197-8

¹³² Kipling *Beast and Man in India*: 252

¹³³ NAI/Foreign/May 1883/B Pol. E/Nos.4-14 *Claims to compensation for camels lost during the Afghan War*.

¹³⁴ Leonard *The Camel*: 16; Leese *A Treatise on the one-humped camel*: 46

¹³⁵ A. N. Kuropatkin *Alzhiriya* (St Pb.: Tip. V. A. Poletiki, 1877): 285 – 309; The Russians were also interested in the experiments made by the American army in Texas in the 1850s: A. A. Katenin 'O pokhodnykh dvizhenii pekhota po stepi' 06/12/1858 Russian State Military Historical Archive (RGVIA) F.483 Op.1 D.49 ll.23 – ob, referring to Jefferson Davis *Report of the Secretary of War, communicating, in compliance with a resolution of the Senate of February 2, 1857, information respecting the purchase of camels for the purposes of military transportation* (Washington: A. O. P. Nicholson, 1857), which described experiments undertaken by Major Wayne and Lt Porter with camels imported from Asia Minor and North Africa to Texas.

‘At the moment when there is a steppe expedition, we hire camels and camel drivers, a great deal of time is lost in this; the secret of the expedition gets out; the enemy has time to take measures to impede or slow down the collection of camels, and to establish the proposed plan of the expedition. With this system of collecting camels, there is no way of knowing their strength, carrying capacity or familiarity with packs, with that certainty which is essential for military enterprises, and thus calculate with accuracy what quantity of supplies it is possible to carry on camels gathered by this means; what length of stages it is possible to make with them, and what distance they can travel without feeding. Beyond this we also have to hope that during the vicissitudes of war the Kirgiz [*sic*] drivers will not leave with the camels, or go over to the enemy, and abandon the force in the steppe in a hopeless situation.’¹³⁶

His solution to this problem was to find a means of transporting infantry using camels, thus both speeding up the progress of steppe expeditions (meaning fewer provisions and thus fewer baggage camels were needed) and obviating the need for unreliable Kazakh drivers. This was a revival of an idea first put forward in 1858 by General Katenin, the Governor of Orenburg, who proposed hanging a cumbersome wooden armchair on each side of the camel, allowing it to carry two infantrymen at a time: it had been approved as an experiment by the Tsar; however while the published report suggested that this system should be used for all expeditions where speed was essential, it never seems to have been put into practice.¹³⁷ Ivanin also thought greater use could be made of steppe horses, and proposed establishing stud farms for them along the Ural and Terek rivers to improve the breed and make them more fit for military use.¹³⁸ Above all, however, he advocated rearing and maintaining a permanent reserve of 40,000 camels directly for military purposes, along the lines (so he believed) of what he still referred to as the East India Company and the Chinese Empire. Ivanin’s proposals were rejected by the cavalry remount division, and by the Regional Staff in Orenburg, who wrote that improving the breed of the steppe horses was a slow process, and above all that as soldiers and Cossacks alike were unable to manage, let alone rear camels, it was necessary to remain with the current system of hiring them from

¹³⁶ M. I. Ivanin ‘Ob ustroistve otrayadov na verbludakh dlya voennykh tselei v Srednei Azii’ 22/03/1873 RGVIA F.400 Op.1 D.340 ll.1 - *ob*

¹³⁷ A. A. Katenin ‘O pokhodnykh dvizhenii pekhoty po stepi’ 06/12/1858; Lieven to Bezak 09/04/1861 RGVIA F.483 Op.1 D.49 ll.3 – 17; 114-118; Anon ‘Pokhody v Step. Upotreblenie verbludov dlya voennykh nadobnostei’ *V/S* (1862) No.2: 357 – 388.

¹³⁸ ‘Ob uluchshenii pochve i porody loshadei v Prikaspiiskikh stepyakh ot r. Tereka do r. Urala’ 27/01/1873 RGVIA F.400 Op.1 D.340 ll.3 – 5*ob*; on the use of Central Asian horses by the Russian military see Carole Ferret ‘Des chevaux pour l’empire’ in *Le Turkestan Russe: Une colonie comme les autres?* ed. S. Gorshenina and S. Abashin (*Cahiers d’Asie Centrale*, No.17/18) (Tashkent and Paris: IFEAC, 2009): 211 – 253

the Kazakhs; now that Khiva had fallen there was no longer any reason to fear treachery.¹³⁹ Ivanin died a year later, and some of his conclusions on the logistics of Inner Asian warfare, based on a study of the campaigns of Chingis Khan, Tamerlane and Nadir Shah, were published posthumously by the General Staff, but they do not seem to have been interested in putting them into practice.¹⁴⁰

In India by the 1890s the British had begun to breed camels for military use, although this had still not been regularized by the First World War, and their experimental studs suffered terribly from disease.¹⁴¹ For both the Russians and the British, thus, this basic structural constraint on military campaigning in Central Asia persisted: once away from the line of rail troops could only be kept supplied by camel, and these in turn could only be provided and effectively managed by the pastoralists who reared them – who in some cases (such as the Turkmen in the 1880s) were precisely the group against whom the campaign was directed. The role of this factor in determining the dynamics of Central Asian warfare and conquest in the 19th century has been severely underestimated: railways only came to this region after most of it had already been conquered by Britain or Russia. This meant that, even as the products of industrialised warfare – rockets, rifled firearms and artillery, explosive shells – were employed against Central Asian peoples in increasingly unequal campaigns, the means of transportation remained the same: the camel. Before every campaign in the barren lands of the North-West frontier and the steppes and deserts of Central Asia pastoralist groups would have to supply thousands of these, whether for money or through coercion. After the failure of 1839-40 the Russians were forced to change their tactics for steppe campaigns; they never again attempted to send so large an expedition over so long a distance, and instead concentrated on building permanent fortresses and supply bases much deeper in nomadic territory, along the Syr-Darya and the frontier with China.¹⁴²

¹³⁹ Head of Cavalry Remounts to the Head of the General Staff 14/05/1873; Head of the Orenburg Regional Staff to the Head of the General Staff 15/06/1873 RGVIA F.400 Op.1 D.340 ll.11 – 12.

¹⁴⁰ M. I. Ivanin (ed. Kn. N. S. Golitsyn) *O voennom iskusstve i zavoevaniyakh mongol-tatar i sredne-aziyatskikh narodov pri Chingis-Khane i Tamerlane* (St Pb., Tip. "Obshchestvennaya Pol'za", 1875): 237 - 243

¹⁴¹ H. E. Cross *The Camel and its Diseases. Being notes for Veterinary Surgeons and Commandants of Camel Corps* (London: Baillière, Tindall, and Cox, 1917): 42-3.

¹⁴² This also echoes the tactics used by the Qing one hundred years earlier: Perdue *China Marches West*: 522-3.

these represented a much more concrete assertion of sovereignty in the region, and helped to create a new and inexorable logic of conquest.¹⁴³

Even with this new infrastructure the numbers of troops involved in Central Asian expeditions remained small – in the Russian case never more than 5,000 men. This was sufficient to overcome the limited opposition the Russians met from Central Asian states and nomadic groups. Nor did it prevent the British from launching punitive campaigns along the North-West Frontier, or into Afghanistan itself in 1879-1880, although it made permanent occupation much more problematic. However, logistics did ensure that these two armies would never confront each other directly in Central Asia. The Russian conquest of India, so beloved of “Great Game” theorists then and now, was a chimera precisely because of these constraints – something Russian Generals with Central Asian experience often stated in public (to the incredulity of British journalists),¹⁴⁴ and which in fact reflected their conclusions in internal documents whenever the topic of making a ‘demonstration’ against the British in India was discussed at the highest political level. A serious invasion force would have needed at least 150,000 men – and at least 300,000 camels to transport supplies.¹⁴⁵ This was a physical impossibility, something that by the 1890s British Military Intelligence in London seems to have understood, but which continued to be stubbornly ignored by the General Staff in India.¹⁴⁶ This also suggests that one of the most popular theories regarding Russian expansion in Central Asia – that it was undertaken by ‘men on the spot’ without sanction from the centre – was rarely if ever true.¹⁴⁷ The transport arrangements for steppe and desert expeditions required months of preparation, together with a substantial budget that had to be approved in St Petersburg. Finally, the neglected history of camel transport in the conquest of Central Asia sheds at least a little light on the human, animal and local dimensions of a process that is usually understood only in grand, geopolitical terms. As Peter Perdue has noted of the Qing conquest of Inner Asia one

¹⁴³ Alexander Morrison ‘“Nechto Eroticheskoe?” “Courir après l’ombre?” Logistical Imperatives and the Fall of Tashkent, 1859-1865’ *Central Asian Survey* June 2014 (forthcoming).

¹⁴⁴ Charles Marvin *The Russian Advance Towards India. Conversations with Skobelev, Ignatieff, and other distinguished Russian Generals and Statesmen, on the Central Asian Question* (London: W. H. Allen & Co, 1882): 103-4.

¹⁴⁵ D. A. Miliutin ‘Ministerstvo Voennoe doklad po glavnomu shtabu chast’ Aziatskaya’ 08/04/1878 NAG F.545 Op.1 D.1154 ll.174 – 179ob & AVPRI F.161 I-5 Op.4 1878 No.1 ll.1-9.

¹⁴⁶ James Hevia *The Imperial Security State. British Colonial Knowledge and Empire-Building in Asia* (Cambridge: Cambridge University Press, 2012): 164 – 172.

¹⁴⁷ David MacKenzie ‘Expansion in Central Asia: St. Petersburg vs. The Turkestan Generals (1863-1866)’ *Canadian Slavic Studies* 3/2 (1969): 286-311

hundred years previously, local environmental, animal and human factors – grain, fodder, camels and the pastoralists who bred and drove them - were more decisive than the desires of statesmen or the tactics of generals in determining the success or failure of military conquest in these arid regions.¹⁴⁸ Far from the chanceries of Whitehall, St Petersburg, Orenburg and Calcutta, the course of European expansion in Central Asia was marked by the lines of decaying carcasses of camels that had died of exhaustion.

Alexander Morrison

Nazarbayev University

¹⁴⁸ Perdue *China Marches West*: 37-8.

Bibliography

Anon [Golosov/Ivanin]. 1867. *A Narrative of the Russian Military Expedition to Khiva under General Perofski, in 1839. Translated from the Russian for the Foreign Department of the Government of India* Calcutta: Office of the Superintendent of Government Printing

Anon 1873. 'Khivinskaya Ekspeditsiya 1839 goda' *Russkaya Starina* 7/2: 236-252

Anon 1878. 'Pis'ma grafa V. A. Perovskago k A. Ya. Bulgakovu' *Russkii Arkhiv* 7: 301-328

Atkinson, James. 1842. *The Expedition into Afghanistan. Notes and Sketches Descriptive of the country* London: W. H. Allen & Co.

Bulliet, Richard W. 1975. *The Camel and the Wheel* Cambridge, MA: Harvard University Press

Congreve, W. 1827 *A Treatise on the General Principles, Powers, and Facility of Application of the Congreve Rocket System, as Compared with Artillery: showing the various applications of this weapon both for sea and land service, and its different uses in the field and in sieges.* London: Longman, Reese, Orme, Brown, and Green

Cooper, Randolph G. S. 2003. *The Anglo-Maratha Campaigns and the Contest for India. The struggle for control of the South Asian Military Economy* Cambridge: Cambridge University Press
Cross, H. E. 1917. *The Camel and its Diseases. Being notes for Veterinary Surgeons and Commandants of Camel Corps* London: Baillière, Tindall, and Cox

Dal', V. I. 1867. 'Pis'ma k druzyam iz Khivinskoi Ekspeditsii' *Russkii Arkhiv* 3: 402-431 & 4: 606-639

Davis, Jefferson. 1857. *Report of the Secretary of War, communicating, in compliance with a resolution of the Senate of February 2, 1857, information respecting the purchase of camels for the purposes of military transportation* Washington: A. O. P. Nicholson

Muhammad Fayz *Siraj al-Tavarikh* (Kabul, Matba'ah-i Hurufi Dar al-Saltanah, 1912 – 1914)

Ferret, Carole. 2009. 'Des chevaux pour l'empire' in *Le Turkestan Russe: Une colonie comme les autres?* ed. S. Gorshenina and S. Abashin *Cahiers d'Asie Centrale* 17/18 Tashkent and Paris: IFEAC,

Gauthier-Pilters, Hilde & Dagg, Anne Innis. 1981. *The Camel. Its Evolution, Ecology, Behaviour and Relationship to Man* Chicago: University of Chicago Press

Gommans, Jos. 2002. *Mughal Warfare. Indian frontiers and highroads to empire, 1500-1700* London: Routledge

H. B. and B. T. B [Hilaire Belloc] 1898. *The Modern Traveller* London: Edward Arnold

Hanifi, Shah Mahmoud. 2011. *Connecting Histories in Afghanistan. Market Relations and State Formation on a Colonial Frontier* Stanford: Stanford University Press

Haughton, John Colpoys. 1879. *Char-ee-kar and service there with the 4th Goorkha Regiment (Shah Shooja's force) in 1841. An episode of the first Afghan War* London: Provost & Co.

Heston, Alan, Hasnain, H., Hussain, S. Z. & Khan, R. N. 1985 'The Economics of Camel Transport in Pakistan' *Economic Development and Cultural Change* 34/1: 121 – 141.

Hevia, James. 2012. *The Imperial Security State. British Colonial Knowledge and Empire-Building in Asia* Cambridge: Cambridge University Press

Hopkins, B. D. 2008. *The Making of Modern Afghanistan* Basingstoke: Palgrave Macmillan

Ivanin, M. & Golosov, D. 1863. 'Pokhod v Khivu v 1839 godu otryada russkikh voisk, pod nachal'stvom General-Ad'yutanta Perovskago' *Voennyi Sbornik* 1: 3-72; 2: 309-358 &: 3 3-71

Ivanin, M. 1874. *Opisanie zimnego pokhoda v Khivu v 1839–40g* St Petersburg: Tip. Tov. 'Obshchestvennaya pol'za'

Ivanin, M. I. 1875. *O voennom iskusstve i zavoevaniyakh mongol-tatar i sredne-aziyatskikh narodov pri Chingis-Khane i Tamlerane* St Petersburg: Tip. "Obshchestvennaya Pol'za"

Jain, J. K. 1982 (ed.) *Descriptive List of Bikaner Bahis (from the 17th to 19th Century* Part I Bikaner: Rajasthan State Archives

Kipling, Lockwood. 1891. *Beast and Man in India. A popular sketch of Indian animals and their relations with the people* London: Macmillan & Co

Köhler-Rollefson, I. 1996. 'The one-humped camel in Asia: origin, utilization and methods of dispersal' in D. Harris (ed.) *The origins and spread of agriculture and pastoralism in Eurasia* London: UCL Press: 282-94

Kolff, Dirk H. 1990. *Naukar, Rajput & Sepoy. The ethnohistory of the military labour market in Hindustan, 1450 – 1850* Cambridge: Cambridge University Press

Kosyrev, E. M. 1898 'Pokhod v Khivu v 1839 godu (Iz zapisok uchastnika)' *Istoricheskii Vestnik* 8: 539-40

Kuropatkin, A. N. 1877. *Alzhihiya* St Petersburg: Tip. V. A. Poletiki

Kuropatkin, A. N. 1899. *Zavoevanie Turkmenii (Pokhod v Akhal-Teke v 1880-1881 godu)* St Petersburg: V. Berezovskii

Leese, A. S. 1927. *A Treatise on the one-humped camel, in health and in disease* Stamford: Haynes & Son

Leonard, Arthur Glyn. 1894 *The Camel. Its uses and management* London: Longmans, Green & Co.

Levi, Scott. 1999. 'India, Russia, and the transformation of the Central Asian Caravan Trade' *Journal of the Economic and Social History of the Orient* 42/4: 519-548.

Levi, Scott. 2007. 'Multanis and Shikarpuris. Indian Diasporas in Historical Perspective' in Gijsbert Oonk (ed.) *Global Indian diasporas: exploring trajectories of migration and theory* Amsterdam: Amsterdam University Press

Low, Charles Rathbone (ed.). 1879. *The Afghan War 1838-42. From the Journal and Correspondence of the late Major-General Augustus Abbott* London: Richard Bentley

MacKenzie, David. 1969. 'Expansion in Central Asia: St. Petersburg vs. The Turkestan Generals (1863-1866)' *Canadian Slavic Studies* 3/2: 286-311

Marvin, Charles. 1882. *The Russian Advance Towards India. Conversations with Skobelev, Ignatieff, and other distinguished Russian Generals and Statesmen, on the Central Asian Question* London: W. H. Allen & Co.

Mayeur-Jaouen, Catherine. 'Badawi and his camel: an animal as the attribute of a Muslim saint' in *Animals and People in the Ottoman Empire* ed. Suraiya Faroqi Istanbul: Eren: 113-128

McChesney, R. D. & Khorrami, M. M. (Trans & ed.). 2013. *History of Afghanistan*. Brill Online

McNeill, William H. 1987. 'The eccentricity of Wheels, or Eurasian Transportation in Historical Perspective' *The American Historical Review* 92/5: 1111-1126.

Morrison, Alexander. 2014. 'Twin Imperial Disasters. The Invasions of Khiva and Afghanistan in the Russian and British Official Mind, 1839 – 1842' *Modern Asian Studies* 48/1: 253 – 300.

Mukasa-Mugerwa, E. 1981. *The Camel (Camelus dromedarius): a bibliographical review* Addis Ababa: ILCA

Parker, Geoffrey. 1988. *The Military Revolution, 1500–1800: Military Innovation and the Rise of the West* Cambridge: Cambridge University Press

Perdue, Peter C. 2005. *China Marches West. The Qing Conquest of Central Eurasia* Cambridge, MA: Belknap Press

Rennell, James. 1791. 'On the rate of Travelling, as performed by Camels: And its Application, as a Scale, to the purposes of Geography' *Philosophical Transactions of the Royal Society of London* 81: 129 – 145

Roy, Kaushik. 2005. 'Military Synthesis in South Asia: Armies, Warfare, and Indian Society, c. 1740–1849' *Journal of Military History* 69/3: 651 – 690

Rozhkova, M. K. 1963. *Ekonomicheskie svyazi Rossii so Srednei Azii 40-60e gody XIX veka* Moscow: Izd. AN SSSR

Saxena, R. K. 1989. *The Army of the Rajputs* Udaipur: Saroj Prakashan

Serebrennikov, A. G. 1908. *Sbornik Materialov dlya istorii zavoevaniya Turkestanskogo Kraya* Vol.I 1839g Tashkent: Tip Shtaba Voisk Turkestanskogo Voennogo Okruga

Serebrennikov, A. G. 1912. *Sbornik Materialov dlya istorii zavoevaniya Turkestanskogo Kraya* Vol.II 1840g Tashkent: Tip Shtaba Voisk Turkestanskogo Voennogo Okruga

Serebrennikov, A. G. 1914. *Turkestanskii Krai. Sbornik Materialov dlya istorii ego zavoevaniya* Vol.XVII 1864g Ch.I Tashkent: Tip. Turk. Voennago okruga

Shakespear, Richmond. 1842. 'A Personal Narrative of a Journey from Heraut to Ourenbourg, on the Caspian [sic] in 1840' *Blackwood's Edinburgh Magazine* 51: 691-720.

Steensgaard, Niels. 1973. *The Asian Trade Revolution of the Seventeenth Century: The East India Companies and the Decline of the Caravan Trade* Chicago: Chicago University Press

Steevens, G. W. 1898. *With Kitchener to Khartoum* Edinburgh: Wm Blackwood & Sons
Suri, Lala Sohan Lal. 1961. *An outstanding original source of Punjab History, Umdat-ut-Tawarikh. Daftar III, Parts i-v. Chronicle of the reign of Maharaja Ranjit Singh 1831-1839 A. D.* trans. & ed. V. S. Suri Delhi: S. Chand & Co

Tuchscherer, Michel. 2010. 'Some reflections on the place of the camel in Ottoman Egypt' *Animals and People in the Ottoman Empire* ed. Suraiya Faruqi Istanbul: Eren: 177 – 181.

Wagner, Kim A. 2007. *Thuggee. Banditry and the British in Early Nineteenth-Century India* Basingstoke: Palgrave Macmillan

Yapp, M. E. 1963. 'Disturbances in Western Afghanistan, 1839-41' *Bulletin of the School of Oriental and African Studies* 26/2: 288 - 313

Yapp, M. E. 1980. *Strategies of British India. Britain, Iran and Afghanistan, 1798-1850* Oxford: Clarendon Press

Yousef, M. K., Webster, M.E.D & Yousef, O. M. 1989. 'Energy Costs of Walking in Camels, *Camelus Dromedarius*' *Physiological Zoology* 62/5: 1080 – 1088

Zhanaev, B. T. (ed.) 2006. *Istoriya Kazakhstana v russkikh istochnikakh XVI-XX vekov* Vol.VIII ch.2 *O pochetneishikh i vliyatel'neishikh ordyntsakh* Almaty: Daik-Press