THE NOMADS' ARMAMENT: HOME-MADE WEAPONRY

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Our understanding of Inner Asian nomads' practices may often be improved by examining those of the imperial Mongols, on whom the sources report more directly and fully than on any other premodern Inner Asians. Moreover, given the imperial Mongols' extraordinary performance, it can be argued that theirs represented the 'best practice' of Inner Asian nomadism. Let us look, accordingly, at Mongol military technology both for itself and as a guide to understanding that of other groups.

Perhaps surprisingly—and *pace* some older interpretations of Mongol warfare[1]—the weaponry of the Mongols was for the most part unremarkable. Consider the account of Mongol arms by John of Plano Carpini.

> They all have to possess the following arms at least: two or three bows, or at least one good one, three large quivers full of arrows, an axe and ropes for hauling engines of war. As for the wealthy, they have swords . . . and . . . a horse with armor; their legs are covered and they have helmets and cuirasses . . . Some of them have lances. (Plano Carpini, 1966, 33)

This description may be buttressed by reports from William of Rubruck and Marco Polo. William relates that when his party, returning from Mongolia, traveled along the Caspian coast past the Caucasus mountains, the local Mongol garrison provided them with an armed escort to protect them against hostile mountaineers.

> I was delighted, for I was hoping I should see . . . armed [Mongols], for I had never managed to have a look at their weapons although I had been most anxious to do so. When we reached this dangerous stretch, of the twenty [soldiers of the escort] there were two who had habergeons [coats of mail]. I asked how they had come by these; they said they had procured them from the [Alans of the Caucasus mountains], who are fine artificers of such things and excellent smiths. This makes me think [the Mongols] have few arms apart from their bows and arrows and leather garments. I saw them being presented with iron plates and helmets from Persia, and I also saw two men who appeared

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1. See Martin (1971, 19–20) for an overestimation, based on Mongol disinformation, of the drawing weight and effective range of the Mongols' bows. Cf. Rubruck (1966, 159), "Then Mangu had a very strong bow made, which two men could hardly draw, and two arrows with heads of silver . . . And he gave the following instructions to the Mongol he was sending with Theodolus [an unofficial member of the 1249 French embassy to Möngke]: 'You will go to that French King to whom this man will take you, and you will present him with these things on my behalf . . . telling him that with such bows we shoot far and strike hard.'".

> before Mangu [Möngke Khan] armed with tunics made of curved pieces of stiff leather, which were very clumsy and cumbersome. (Rubruck, 1966, 210–211)[2]

In Marco Polo's description,

> [The Mongols'] weapons are bows and swords and clubs; but they rely mainly on their bows, for they are excellent archers. On their backs [meaning bodies, I think] they wear an armor of buffalo hide or some other leather which is very tough. (Polo, 1980, 99)

And,

> Every [Mongol] soldier is ordered to carry into battle sixty arrows, thirty smaller ones for piercing and thirty larger with broad heads for discharging at close quarters. With these latter they wound one another in the face or arms and cut through bow-strings and inflict heavy losses. When they have shot away all their arrows, they lay hold of sword or club and deal mighty blows. (Polo, 1980, 314)

These accounts show that the Mongols relied principally on archery, that many—probably most—were armed for hand-to-hand fighting only with a club (a term which probably stood for the mace frequently depicted as part of the Mongol armament—the axe on Plano Carpini's list is never pictured), and that only the wealthy had armor, swords, and lances.[3] The only hint at a sophisticated weapon in general use is provided by Plano Carpini's mention of "ropes for hauling engines of war". "Hauling" here probably meant "shooting", as the ropes were probably intended, not for dragging artillery from place to place, but for powering traction trebuchets, where a number of men simultaneously pulled on ropes attached to the short end of a pivoting pole, the long end of which propelled a sling-shot (see *Figure 1*).

Reliance on archery was determined in part by the large numbers of nomad warriors. The pastoral economy of Inner Asian nomadism is not labor-intensive. The subsistence animals—sheep and goats, and various bovids—can be herded and milked by women and children, who can accomplish most of the camp chores as well, leaving adult male labor free for other employment. This situation, and an important sort of 'other employment', are widely recognized in the sources, usually in a remark such as "in time of peace the men have nothing to do". Actually, the men kept themselves quite busy, although at work mostly of military relevance: raising, herding, and training horses, and making weapons, for instance. But since the subsistence economy did not require their help, all the physically-able men, from sturdy

2. Rubruck (1966, 136) also mentions a colony of German slaves established at the town of "Bolac" near Talas to mine gold and make weapons for the Mongols.

3. Reid (1992) comments that the *Secret History* rarely mentions lances or swords.

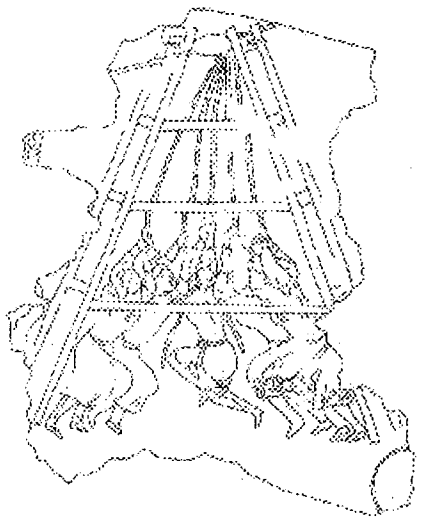

Figure 1 *Traction trebuchet, eighth century, Pyanjikent*[4]

adolescents through vigorous ancients, were potential soldiers, and could be actual recruits if provided with the necessities of war.

The numbers of this potential soldiery were large, even though the nomad populations, by comparison with those of sedentary societies, were small. The adult male component in populations is around 20 percent, and so Outer Mongolia, for instance, which had about half-a-million people, almost all nomads, at the time of the 1918 census, should have had a potential army of 100,000 men. In Chinggis Khan's time, Outer Mongolia's actual army approached this number. Chinggis organized about 135 regiments of, nominally, 1,000 men each; it seems to have been expected that only about 70 percent of the men—thus about 95,000—would be able to report for duty. Following the expansion of the Mongol empire, all the nomads of Inner Asia came under Mongol control and became a potential army of some 850,000 men—an army, moreover, consisting almost entirely of cavalry. Compare the armed manpower of the First Crusade, estimated at about 35,000 men, only 15 percent of whom were cavalry.[5] Moreover, the nomads could field all their soldiery, at least where grazing or fodder was available: the horses ate grass and the soldiers rode—and ate—the horses. This large number of soldiers required a correspondingly large quantity of weapons.

The small, mobile communities of Inner Asian nomads, however, could only support some itinerant blacksmiths, not a specialized arms industry that could meet this demand, as we can see from Rubruck's observations.[6] So the

4. Nicolle (1988), no. 24.

5. Runciman (1964, 339). Sedentary societies have found very large cavalry forces (especially of heavy cavalry) too costly to mount, feed, equip, and pay.

6. Rashîd al-Dîn (1940, 336–37) describes the inability of Persian armories to meet Mongol demands until Ghazan's reform of arms procurement. For blacksmiths among nomads in more recent times, see Barth (1961, chapter 6).

nomads had either to import weapons—which, if the large potential clientele were to be served, meant importing from a major arms-producing sedentary society—or make what they could for themselves.

Of the weapons that the nomads could make, bows and arrows best accommodated their resources, skills, and needs. Most of the trees of Mongolia are conifers (90 percent), mostly unsuitable as bow-woods. However, cedar (12 percent) and birch (9 percent), if less than ideal, can be made into bows, and also arrows, which can even be fashioned from pine. The indifferent quality of the bow-woods was in any case offset by reinforcement. Sinew glued on the outer side or 'back' of the bow, and horn or bone on the inner, 'belly' side, improved not only the flexibility of the bow's limbs, but their strength, far beyond that of plain wood staves of similar size, whatever their quality—the favorable comparisons of Asian compound bows with English longbows are well known. Making bows from these materials—all of them available in Mongolian forests, or in nomad camps as by-products of livestock-raising—required only simple tools and modest skills in whittling, glue-making, and the like. It has been said of the American Indians, whose archery had many similarities with that of Inner Asia, "any man was capable of making a usable bow".[7] The resources and skills of arrow-making were as accessible as those of bow-production. The available woods were adequate for arrow-shafts; feathers from local birds provided fletching for the shafts; and arrowheads could be cast or hammered out of metal scraps (which were probably common trade goods, or, if embargoed, easily smuggled). American Indians used to cut arrowheads from thin iron frying-pans or wagon-hoops,[8] and the Mongols could likewise have cut up iron utensils. Points could be fashioned out of stone or bone as last resorts.

The Mongols' home-made, compound bows reflected not only the limitations of resources and technology in nomad society, but also the talents of archer-designers who had, over many millennia, overcome these limitations. The bows were not only compound, but re-flexed and re-curved according to a design that rendered them powerful for their small size and weight, and, because of their small size, handy to carry and use, on horseback or afoot. Although, since every man made his own, some bows were better than others, as Plano Carpini's comment indicates, many were among the finest exemplars of perhaps the deadliest of premodern weapons.[9]

The club, the Mongols' other basic weapon, could also be manufactured at home, and more easily than bows and arrows. Even its enhanced form, the mace —shown in illustrations as an approximately two- to two-and-a-half-foot wooden

7. Laubin (1980, 24). The construction of bows of Inner Asian type is discussed from primary sources in Klopsteg (1947) and Latham and Paterson (1970).

8. Laubin (1980, 116). The Mongol wagons that Michael Gervers saw constructed in 1997 did not have iron-bound wheels (personal communication).

9. De Rachewiltz (1976) discusses a Mongol stele of the thirteenth century commemorating a shot in a flight-shooting competition of 335 *alda* [fathoms].