The Japanese curved sword

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In Japan, swords were used by warriors on horseback only when they had little or no other choices. And they were NEVER an efficient cavalry weapon.

First, a couple of points about sword nomenclature and such:

Contemporary aficionados classify Japanese swords as tachi, katana, wakizashi and tanto, but this is an entirely modern typology, designed for evaluating swords and sword furniture as art objects rather than as weapons. The term, "tanto," for example, written with a pair of characters that mean "short sword," is now a technical description applied to blades less than one shaku (approximately 30 cm.) long, but during the Heian period, the same compound was read "nodachi," and indicated any sort of smallish sword or long knife. Similarly, "wakizashi," which modern sword collectors use to designate intermediate-length blades (between one and two shaku), was originally an abbreviation of "wakizashi no katana" ("sword thrust at one's side"), and applied to companion swords of any length. Interpreting references to any of these terms in early medieval sources in the context of the modern classification system, therefore, invites serious problems of anachronism.

In early medieval usage, single-edged long swords were most commonly called "tachi," written with any of several characters or compounds, while the term "katana" referred to what was later called a tanto or wakizashi--that is, a short blade worn thrust through one's belt. Companion swords of this sort were also known as "sayamaki" ("wound case") because of the wrapped design of their scabbards, or "koshi-gatana" ("hip sword") because of the way they were carried.

The tachi was a warrior's principal sidearm, employed when he ran out of arrows or was otherwise unable to bring his bow into play. Katana were used for grappling and other very close combat, as well as for removing the heads of slain opponents, and for committing suicide. Kondo Yoshikazu notes that these differing functions are clearly reflected in the vocabulary associated with the two types of swords: With very few exceptions, in literary and more prosaic sources alike, warriors are depicted using tachi to "cut" (kaku or kiru) or "strike" (utsu), while using their katana to "stab" (sasu) or "thrust" (tsuku).

The history of the curved tachi favored by early medieval warriors is the subject of lively debate and speculation, but little consensus, spurred on by evidence that is not only incomplete, but equivocating. Medieval tachi combine elements from several earlier types of sword, but the sequential relationship--if any--between these ancestral blades is far from clear. And efforts to put together a complete picture of sword evolution are further complicated by the dearth of surviving examples of swords from the early and middle Heian period.

Whatever its sequence of evolution might have been, the curved blade undoubtedly enhanced the sword's cutting ability. A blade curved backward, away from its cutting edge, promotes a smooth, slicing cut, and distributes impact more evenly along the whole of the weapon than a straight blade, reducing the shock transmitted back to the wielder. Offsetting the hilt away from the blade also augments wrist movement and power, when using the sword one-handed.

These considerations, combined with the timing of the curved tachi's appearance--coinciding with the emergence of the bushi, who were mounted warriors--have led many to link the shape of the early medieval tachi to the demands of cavalry warfare. The straight-bladed tachi of the Nara and early Heian periods, goes this argument, were developed for infantry usage and intended primarily as thrusting weapons. Swordplay from horseback, however, calls for slashing and cutting, rather than stabbing. Thus the curved tachi was introduced in response to a new style of fighting favored by a new order of warriors.

But this hypothesis ignores more evidence than it embraces. To begin with, it's premised on an inflated dichotomy between the style of warfare favored by the bushi of the late tenth and eleventh centuries, and those of their forebears. There was no sudden change in the importance of mounted warriors in the decades immediately preceding the adoption of the curved sword. Cavalry didn't suddenly become fashionable during the mid-10th century; court military policy had been increasing its tactical focus on mounted warriors--and trimming back the infantry component of its armed forces--since the 700s. By the mid-9th century this process was already near complete: fighting men on horseback were the predominant force on Japanese battlefields. Thus the straight (chokuto) tachi of the Nara and early Heian periods must have been as much cavalrymen's weapons as were the curved tachi of the later Heian and Kamakura periods.

Reasoning from technological evidence leads to the same conclusion. Curved blades are inherently stronger and easier to cut with than straight ones. They're also easier to draw, and can therefore be made slightly longer. But these advantages are of as much value to swordsmen on foot as to mounted warriors. The construction of the chokuto, moreover, testifies that it too, was meant to be used as much for hacking and slashing as for stabbing.

The ideal design for a thrusting blade is straight, with both edges sharpened-the form of ancient and medieval Japanese spear blades. But Nara and Heian chokuto tachi were single-edged, a design better suited to cutting and chopping than to thrusting. The five-faceted cross-sectional shape of the chokuto also marks it as a cutting weapon. The simplest shape for a single-edged sword blade is triangular, tapering evenly from the back to the cutting edge. This design (hirazukuri) is an excellent silhouette for a stabbing blade--and was in fact the form applied to early medieval katana--but it puts a great deal of stress on the edge if the weapon is used to cut or chop. Japanese sword smiths found, however, that the strength of the blade could be increased without losing sharpness, if it was forged such that the back four-fifths were shaped like a rectangle, with only the cutting edge shaped like a triangle (kiriha-zukuri). This was the design utilized in most Nara and Heian period chokuto, and in the earliest curved tachi. Still later they discovered that the addition of ridges to the side and back, resulting in a six-sided cross-sectional silhouette (shinogi-zukuri), produced a lighter, more wieldy blade, without sacrifice of strength or sharpness.

Even more to the point, the written and pictorial record shows that while both the chokuto and the curved tachi may indeed have been cavalrymen's weapons, neither were cavalry weapons: there isn't a single example, in any document, text or drawing produced before the 13th century that depicts warriors wielding swords from horseback. Throughout the Heian and Kamakura periods, bushi employed swords in street fights, and when unhorsed or otherwise forced to fight on foot, but seldom while mounted.

Clearly then, cavalry warfare couldn't have been the impetus behind the transition from straight to curved swords during the middle Heian period. The curved blade may, in fact, originally have been simply a fortuitous by-product of the forging process--a whole other story.

In any event, the preferred--the definitive--cavalry weapon of Heian, Kamakura and Nanbokucho era warriors was the bow and arrow, deployed at close range (usually 10-20 meters or less) by individuals and small teams maneuvering around one another like dog-fighting aviators.

Until recently, the received wisdom said that this pattern was already changing by the late 12th century--that while warriors of this period continued to fight on horseback, they no longer engaged in the galloping archery duels favored by their forebears. Instead, they confronted one another at more intimate range, using swords or even grappling techniques to unseat opponents, whom they would then finish off on the ground, with daggers. But more recent work has pretty well demolished this belief (which derived from a literal reliance on works of oral tale literature, like the *Heike monogatari*).

The underlying conditions and strategic priorities, and thus the central fighting methods, of war remained predominantly the same throughout the early medieval era. 13th and 14th century warriors continued, by and large, to perceive themselves as followers of "the way of horse and bow"; and 13th and 14th century commanders continued, by and large, to look to mounted bushi as their primary weapons. Swords, by contrast, were rarely employed except under circumstances in which warriors could not use their bows.

As I noted above, there isn't a single example in any Heian period document, text or drawing of warriors wielding bladed weapons from horseback. This is scarcely surprising, when you consider how poorly suited early medieval tachi and oyoroi were to mounted swordplay. It would, to begin with, have been no easy task to close to sword range on horseback, against a mounted adversary armed with bow and arrows. Cutting or stabbing through oyoroi with the slender, short-hilted tachi of the era would have been nearly impossible; and even walloping an antagonist with sufficient force to unhorse him would have been awfully difficult, particularly for a warrior whose balance, striking power and freedom of movement were impeded by the rigid, boxy cuirass and loose-hanging shoulder plates of his own armor.

Simply knocking the opponent to the ground wouldn't, moreover, have concluded the contest; the warrior would have had to dismount himself, to finish him off with sword or dagger. But repetition of that sort of tactic--which some earlier historians envisioned as the prevailing form of combat in Gempei battles--would have rapidly exhausted even the hardiest warrior, since his armor added nearly half again to his own body weight. It would also have given the his horse ample opportunity to scamper off, converting him to a foot soldier for the duration of the battle.

Grappling on horseback was fraught with similar problems--as are scholarly speculations that Kamakura warriors preferred to fight that way. To be sure, medieval war tales feature quite a number of episodes in which contending samurai grappled with one another, first on horseback and then on the ground. But all such incidents occur during the final stages of large battles, at points when the warriors involved had exhausted their arrow supplies and one side or the other was in retreat.

Swordfights took place at similar times, or under other circumstances in which bushi did not have recourse to their bows. One searches in vain for a single battlefield example of warriors voluntarily forsaking bow and arrow to fight one another hand-to-hand. All bushi carried long swords (tachi), as well as shorter, companion blades (katana), and trained at grappling; but they viewed these weapons as supplements to their bows and arrows, never as replacements for them. Kamakura warriors were still, by preference and for good reason, first and foremost bowmen on horseback.

Mounted archers remained central to Nambokucho warfare as well. Recent studies by Thomas Conlan, Shakado Mitsuhiro, Suzuki Masaya, Imai Seinosuke and others have persuasively undermined long-cherished presumptions that the 14th century marked the advent of a new age of infantry supremacy. The most compelling evidence on this point comes from analyses of statistics on wounds, compiled from battle reports. Conlan looked at 1302 such documents, cataloging 721 identifiable wounds. Of these, some 73% were caused by arrows, while only 25% were the result of sword strokes, and fewer than 2% involved spears. Suzuki examined 175 such documents, and found that nearly 87% of the 554 identifiable casualties reported therein came from arrows, 8% were caused by swords or naginata, just under 3% were the result of troops having been struck by rocks, and 1% were caused by spears. Shakado's less extensive survey of some 30 battle reports indicates that 82% of the wounds were caused by arrows.

Pictorial, narrative and documentary records also indicate that ratios of horsemen to foot soldiers in field battles remained similar to those of Heian and Gempei conflicts; and that troops on foot fought in scattered groups, shooting, whenever possible, from the cover of rocks, trees, buildings, or standing shields. Clearly then, Nambokucho battles continued to revolve around skirmishes between mixed clusters of mounted warriors and foot soldiers.

By the late 15th century, samurai on horseback were rarely using bow and arrow. But they were also rarely fighting on horseback. By this time, battles were decided mainly by archers on foot, augmented by spearmen. Officer-level warriors usually rode into battle, but they normally dismounted to fight (Portuguese observers' commentaries on Japan make this point explicitly), and they NEVER operated as cavalry units (except in the movies).