
WHAT THE HECK IS A CHAKRAM, ANYWAY?

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Web Coordinator's Note: There are several images in this article that are surrounded by a red border. These are available for viewing at a larger size by simply clicking on them. We encourage the reader to do so in order to see a more detailed view of the iconographic elements that Mr. Rudnick points out.

AUTHOR'S NOTE

I would like to thank friends and colleagues at the British Museum and the Royal Armouries for their assistance with this article. Although you wished your names not be given publicly, you know who you are, and thanks again for the hospitality and access to rare exhibits and materials during my recent visit.

WHAT THE HECK IS A CHAKRAM, ANYWAY?



Illustration of a chakram from Egerton's monograph, showing both sides..



Extremely rare plaque of a warrior figure, possibly a Rakshasa, within a chakram topped by 5-headed cobra and flanked by two peacocks. Photo courtesy British Museum.

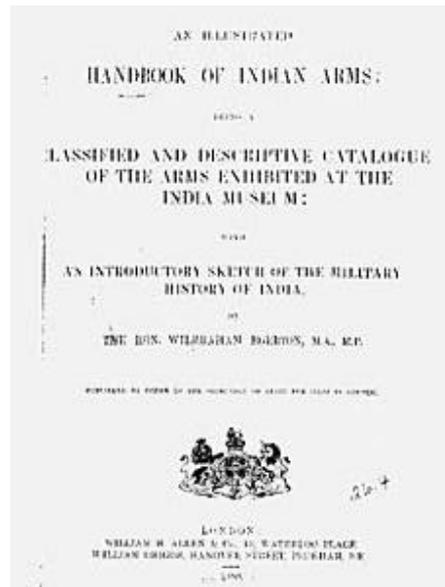
ETYMOLOGY AND ORTHOGRAPHY

[01] According to a Sanskrit dictionary, "chakra" literally means round, circle, or wheel. The word is often found in

Hindu and Tantric Buddhist literature in reference to various energy centres in the body (there are as many as 88,000 of them, though only a handful of "major" chakra). It is a fitting root to the word "chakram", describing the familiar weapon we have seen Xena use so often.

[02] While researching this article, I have seen "chakram" spelled in a variety of ways, but for consistency, the convention "chakram" for singular and "chakrams" for plural will be used.

[03] The majority of literature regarding the history and use of this weapon available outside India is in English, almost exclusively from British Imperial sources, and they tend to refer to a chakram as a "quoit". Quoit, according to the OED (Oxford English Dictionary), is a word of indeterminate origin used to describe metal or stone disks thrown in the Greek and Roman fashion of the discus.



The "holy grail" of chakram source material, Egerton's monograph on Indian arms.

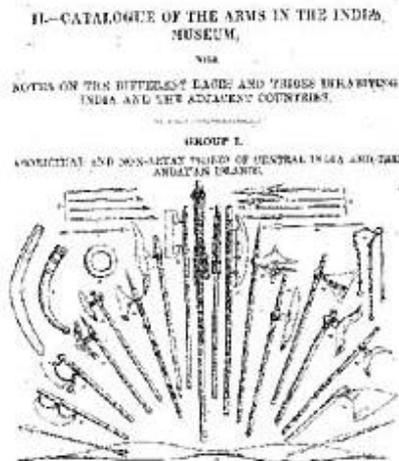
RELATIVE SCARCITY OF SOURCE MATERIAL

[04] There simply is not a large amount of material about chakrams, especially when compared with the libraries of material for other weapons. One could spend a lifetime sorting through all the material available about swords, but it would take less than a day to sort through all the material, nationally and internationally, about chakrams.

[05] Although a few books in French, German, and Italian reference chakrams, the text only gave them scant mention, and often there was not even a picture.

[06] The mother lode of chakram reference material in English is a monograph by The Honourable Wilbraham Egerton, M.A., M.P., originally published in 1880 under the title "An Illustrated Handbook of Indian Arms". Books such as "By My Sword and Shield -- Traditional Weapons of the Indian Warrior" by E. Jaiwant Paul make mention of the chakram, but essentially duplicate the information compiled by Egerton.

[07] Egerton himself bemoans the lack of reference material on Indian weapons even in his day. He writes in the introduction of his book: "When in 1855 I began to form a collection of arms in India I found the want of a book to assist me; there was none available, nor any information about Indian weapons and their manufacture, except that which was to be found in books of travel, or in the notices scattered through Oriental magazines." So he wrote one. What a work! In true Victorian fashion, Egerton catalogued in great detail all of the weapons he could find used on the Indian subcontinent. His attention to detail was impressive, and fortunately for us, he did not overlook the chakram.



In the group of thrown weapons at top left, the chakram is the donut-shaped object.

[08] Even more to the benefit of arms history was Egerton's timing. "After the Sikh wars, and again after the mutiny of 1857, a general disarmament took place, many of the old armouries were broken up, and many curious old weapons destroyed and sold as old metal." Egerton assembled for the India Museum (later the Victoria and Albert Museum) an astounding collection of material culled from army commanders' and governors' war souvenirs, private collections, or gifts presented to Queen Victoria by the East India Company.

DESCRIPTION AND HISTORY OF THE CHAKRAM



Two exquisite chakrams in the British Museum, with detail.

[09] The chakram is classified as a quoit-type weapon, being a steel ring five to twelve inches in diameter of varying thickness. It usually has a sharp outer edge, but not always. It is thrown or hurled, either by being released after being twirled around the smooth inside edge by the forefinger (a favourite Sikh method) or released frisbee-like or discus style.



Fig. 31.—A Sikh throwing the Quoit.

Illustration from Egerton's monograph.

[10] It has an effective range of 40 to 50 metres. >From about the 16th century onwards, it seems to be a weapon exclusively used by the Sikh military. Used in volley fire fashion by trained footmen in the centuries before Britain imposed its rule, it continued to be a viable part of the Sikh inventory at least in part as late as the 19th century. George Cameron Stone, writing in 1934 of a Sikh military exhibition he had witnessed many years prior, described the skilled use of the weapon from a distance of 50 metres, where trained warriors struck an archery-like target and usually hit their mark.

[11] Historical references to the chakram go back to mythical and legendary times. There are accounts (some

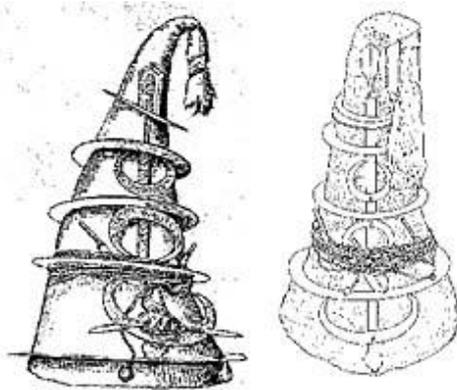
say they are legendary, others say they are factual) of Assyrian and Egyptian invasions of India. The earliest native references to arms are in the myths/histories/poems/epics of the Ramayana and the Mahabharata. Specifically, says Egerton citing Abbe Dubois, "The Hindus have 32 different kinds of weapons, and each of the 32 gods has his own weapon. Krishna and Ram are armed with a battle-axe and bow and arrow. Vishnu holds the chakram. Kartikeya, the god of war, and Ravan, the giant, bear in their hundred arms a display of every species of military offensive weapon. Indra, the god of the Kshatriyas, is represented as riding on an elephant, and armed with the sword and the chakram, the battle-axe and the thunderbolt."



Two representations of Vishnu, with consort(s). Figures in British Museum.

[12] The next historical reference to chakram I've been able to find is in a description of a 16th century Indian army. It was noted that the warriors of Dheli and their array of weapons, included 'steel wheels' which they call 'chacarani' (chakram)... carried seven or eight on the left arm, and spun on the fingers of the right hand."

[13] Another method of transporting chakram, evident in art and a couple of spectacular museum exhibits, is the "quoit turban". This headgear carried a variety of daggers and chakrams of varying size, though the manner in which they are affixed suggests they were not for speedy use.



Two drawings of Sikh quoit turbans, on exhibit at the Royal Armouries.

[14] The quality of chakrams varies considerably. They run the gamut from simple, steel rings to exquisitely decorated chakrams. Most appear to have been made of steel, with the rest using brass or some other metal.

PRACTICAL APPLICATION



The Aerobie -- modern chakram.

[15] As a physicist and engineer by trade and at heart, I simply could not resist the opportunity to practise throwing chakrams. Not wanting to damage museum pieces, I used the most practical substitute available: an aerobie. The aerobie is an excellent substitute for a chakram, having nearly identical configuration. The aerobie I used had an extra "lip" around the outside edge, which acted as a "spoiler" and ensured a more stable flight. Two of the chakrams I studied for this article had a similar feature. Centuries before powered flight, the Sikhs had a thorough understanding of the basic airfoil. In fact, all the chakrams I have been able to handle have had a flat bottom and asymmetric curved top, which is another key airfoil feature.

As air rushes past the chakram, the air flowing over the curved top goes faster than the air over the flat bottom, thereby giving lift to the device. The high rate of spin capable with the aerobic/chakram makes for a very stable flight.



Twirled and released from forefinger is surprisingly accurate.

[16] The aerobic/chakram is not a boomerang. When released, it tends to go very straight and level. It is not easily deflected by wind. In fact, the day I experimented with it, there were powerful gusts of wind from time to time. The aerobic, when caught by one of these gusts, would suddenly jerk up or down several inches, but would never veer off course. It flew straight and true.



Even strong winds do not deflect the ring from straight flight.

[17] Some chakrams I handled were bent or warped. I attributed this at first to poor handling through the ages. Not true. It turns out that if your chakram (or aerobic) consistently rolls to the right or left upon release, you can straighten the flight by bending the ring up or down accordingly.



Catching a real chakram would be tricky at best.

[18] Forget fancy aerodynamics with the chakram. Unlike a frisbee, which has a sealed centre able to catch the wind and thus be utilised for fancy tricks, the chakram/aerobie will fly straight and true unless something gets in the way. Those complex bank shots we see in XENA: WARRIOR PRINCESS just ain't happening. But the chakram/aerobie does "skim" nicely, and it has an incredible range. In fact the Guinness Book of World Records distinguishes the aerobie as the world's farthest thrown object -- 1,257 feet (almost a quarter of a mile).



Grasped between thumb and forefinger, forward and reverse releases work equally well.

[19] I tried both the "twirling" method and "traditional" method of release and both worked very well. It may seem

counter-intuitive, but I felt I achieved much greater accuracy with the "twirling" method.

[20] But whatever method you choose to try, there is no substitute for practical application to your study. Perhaps next time I will try making one instead of just throwing one.



The "chakram" is visible mid-way between tosser and victim, between the trees.