Evolution towards the Manchu bow

It is unclear exactly when and where the Manchu bow originated. I like to call it "Manchu bow" because we know for a fact that it were the people who called themselves Manchu from 1636 onwards that introduced this bow into China during their time of conquest. Of course it is more than likely that the bow design far predates 1636. It probably originated among one of the Jurchen tribes that made up much of the Manchu ranks.

The predecessors of the Manchu bow were the static non-contact eared bows in use by many cultures around the Silk Road: Huns, Mongols, Khitan, and Han Chinese up to the Ming dynasty. Static non-contact eared bows are built to shoot medium weight arrows. Their main advantage is that because the ears point backwards towards the archer, the bows have a natural tendency to correct their ear alignment by the natural tension of the string. This in contrast to static contact eared bows in which a misalignment of an ear tends to exaggerate itself as the string is pulled. This makes the static non-contact eared bows rather foolproof and maintenance friendly versions of the Asian composite design, ideal for long campaigns through various weather conditions.

Song dynasty Han on horseback. Note his strung bow in his bow case. It clearly shows the long static non-contact ear.

Dated Southern Song Dynasty (1127-1179), painting in the collection of the Museum of Fine Arts, Boston

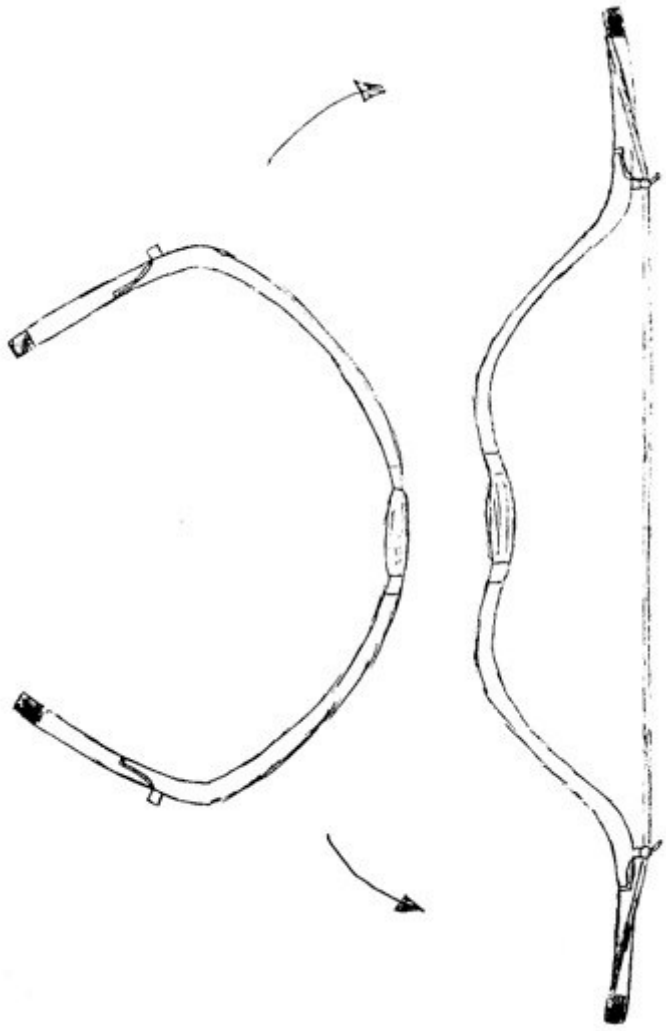
Bow found in Zargalant, present-day West-Mongolia. Dated to the 7th or 8th century. It shows the typical shape of a static non-contact eared bow. To the upper left is a replica in string condition showing the string only touching the ear at the nock end.

One of the companions to Yuan dynasty ruler Kublai Khan shooting his bow during a hunting trip. The bow seems to be of typical static non-contact ear type, but as Bede Dwyer pointed out to me, it is more akin if not nearly identical to a contact-ear bow found in Cagaan Chad which is dated to the 14th century.

Detail from a larger painting by Liu Guandao, dated around 1280. Held in the Taipei National Museum.

The bow found at Cagaan Chad, present-day central Mongolia. It is in remarkable state of preservation and to my knowledge the only bow of its type discovered so far. It has small leather string bridges and slightly recurved ears. Its profile is of course distorted by being strung for centuries, the top limb gave at some point straightening the bottom limb out.

Detail of the ear of the Cagaan Chad bow. Even the color scheme is nearly identical to the bow seen in the painting by Liu Guandao.



A Manchu bow, left unstrung, right strung.
Dated 2005, drawn by the author. (Forgive me, I did the best I could.)

The main difference between the Manchu bow and its predecessors is the more forward angle of the rigid ear and the presence of a prominent string bridge. This makes for a flatter force-draw curve, and more stored energy for a given poundage. Disadvantages of the design are that any bow with more forward pointing ears is also more susceptible to twist, requiring more attention and skill in maintenance. Heavy bows of this type store a lot more energy than static non-contact eared bows or contact bows with less recurve, which are the same draw weight. But they are also harder to string and require more care to maintain. Contact ears by the way weren't a new invention, they have existed since ancient antiquity. But all these ears were rather short, and the Manchu bow appears to be the first bow with very long static contact ears. The shorter ears of all previous designs somewhat reduced their maximum stored energy in comparison with the Manchu bow, but made very efficient and fast bows designed for shooting lighter arrows with high velocities much like the Korean traditional target bow.

The most likely reason for its design is that a considerable part of the peoples of Manchuria have

been known as large game hunters for over two millennia. Early Sushen (early inhabitants of present-day Manchuria) already were respected hunters and they presented tribute to the Chinese court in the form of arrows with bone tips and mulberry hunting longbows that were said to be of the finest quality. Wooden longbows are described to be in use in Manchuria among "wild" Manchus even up to recent times. Perhaps when the composite construction came within their reach they looked to build a bow that could launch the heavy arrows their longbows could. A heavy Manchu bow has no problem launching heavy English warbow arrows, Manchu military arrows were often even heavier. This while many other composites are built for optimal performance with much lighter arrows, with more of a focus towards arrow velocity. There is a lot to say for and against each approach, but for the Manchu bow, they clearly chose the heavy arrow approach and tailored the bow for this use to perfection.

The various bows and arrows described to be in use by the Ming military in the late Ming dynasty Wubeizhi were supplanted rapidly and completely by the new Manchu bow. It has been suggested that it may have been the result of a policy to disarm the people. I find this unlikely, as even early in the dynasty only one in every 26 soldiers were Manchus. It would not make much sense to disarm the people that fight *for* you. Also, the use of a vast range of Ming dynasty weapons remained in use by Chinese soldiers up to the very end of the dynasty including weapons like long two-handed sabers in the school of Qi Jiguang, a whole range of odd pole-arms, and various types of musket and cannon. Chinese bowyers also didn't stop producing bows, they started to solely produce Manchu bows, which doesn't fit the "disarming" theory either. I tend to think that the Manchus considered their bow most suited for their style of warfare so all Chinese bowyers were ordered to produce Manchu style bows in large quantities for the war efforts. The wars of conquest lasted long enough for generations to pass, after which the skill for making Ming style bows was probably lost, along with any demand there may have been for them.

Manchu archers, 1872.
Photograph by John Thompson, National Library of China. He used wet-collodian which required an exposure time of just a few seconds, making such shots possible for the first time.

Further reading

Journal of Chinese Martial Studies

The inaugural issue with at pages 83-97 a most interesting article about Orochen archery called "The Archery Tradition of China's Boreal Hunters" by Hing Chao (aka Zhao Shiqing). It is about the Orochen, a group of so-called "wild Manchus" that managed to retain aspects of their original culture much longer than other Manchu tribes.

Rediscovering Manchu archery

An introductoty article accompanying a lecture I presented at the W.T.A.F. academic seminar, Busan, Republic of Korea, September 30th, 2008.

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