

## SAMURAI: Tokugawa Period (1603-1867) Arms and Armor

Selected Pieces from the H.J. Heinz Collection at The Carnegie Museum of Natural History, Division of Anthropology, Pittsburgh, Pennsylvania

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There is a little known Japanese collection stored in the Anthropology Division at the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania. Most of the 2,400 objects date from the Tokugawa period (AD 1603-1867) and relate to the group most Westerners recognize as "samurai." A majority of the objects was once part of a larger collection belonging to H.J. Heinz (1842-1919), one of Pittsburgh's foremost citizens at the turn of the century and founder of the food processing company that bears his name to this day. From time to time until 1941 parts of the collection now in the Anthropology Division were exhibited, but the collection was never researched nor properly displayed, as there has never been an Asian specialist at the Museum. Thanks to funding from the American Society of Arms Collectors, 63 representative pieces of helmets, body armor, polearms, a ceremonial sword, archery equipment and horse gear were photographed and, in conjunction with funds received from the Japan Ministry of Education, researched for the first time from June 1991 to June 1992 at the Tokugawa Art Museum in Nagoya, Japan.

The Tokugawa Art Museum is the repository of the best-documented intact collection of the prestigious Owari daimyo branch of the Tokugawa (shogun) household. Moreover, the Tokugawa Museum's philosophy of exhibiting objects within their proper context in order to better understand the people who used or created them matched the Carnegie's future objectives for its own Japanese materials.

The following is a catalog of the highlights of 63 of the Heinz Japanese military pieces, beginning with a brief account of how Mr. Heinz acquired the collection, a note on the Tokugawa Art Museum collection where the comparative research was carried out, followed by the catalog entries arranged in seven sections: Helmets and Body Armor, Face Armor (masks) Ceremonial Sword, Polearms, Guard Duty/Fire/Policing Weapons and Gear, Archery Equipment and Horse Gear. Each section begins with general information followed by the individual entries. Because there is little scholarly material available on Japanese military objects in English, the research was derived from Japanese sources, including books and documents in the Tokugawa Museum Archives, conversations with the curators at the Tokugawa Art Museum, and comparison with similar pieces in the Tokugawa and other Japanese collections. Specific page references are footnoted and included at the end of the



end of the paper along with complete bibliographic information for the literature cited.

The author wishes to thank the members of the American Society of Arms Collectors, the Japan Ministry of Education (*Mombusho*), and curators and staff of the Tokugawa Art Museum—especially Mr. Tokugawa Yoshinobu, Sato Toyozo, and Koike Tomio—and the curators and staff of the Division of Anthropology, Carnegie Museum of Natural History, whose generosity and expertise made this study of the Heinz materials possible. (Note: All Japanese names follow the Japanese system of surname first.)

### H.J. HEINZ, JAPAN, AND THE CARNEGIE MUSEUM OF NATURAL HISTORY

The Industrial Revolution in the United States produced a class of nouveau riche industrialists who amassed unprecedented fortunes. Pittsburgh, home to coal, steel, and glass, had a lion's share of the new wealth. One of the ways the new elite expressed its status was to build huge estates and later museums and fill them with curiosities from travels to exotic lands. This was the heyday of the African explorer, the tiger hunter, and the venturer to the Orient.

One such industrialist-adventurer was Henry John Heinz, founder of the Pittsburgh food company that bears his name.<sup>1</sup> He knew Andrew Carnegie, lived across the street from Henry Clay Frick, and dined with viscounts. A staunch protestant Christian, Heinz strived to maintain strict moral values, and actively spread his ideals



The entrance to the Tokugawa Art Museum...



... and the front of the renovated building.

worldwide via Sunday School education. Those ideals, as much as his business and turn-of-the-century industrialist image, prompted him to make frequent overseas trips and bring back bits and parts, his beloved "curios," to his native Pittsburgh.

H.J. Heinz went to Japan in 1902 and 1913 as the President of the World Sunday School Association.<sup>2</sup> In the course of his travels, Heinz had also befriended Viscount Eichii Shibusawa, the "father" of modern banking in Japan and Meiji Era (1868-1911) corporate magnate, who was to be the most enduring link between Heinz and Japan<sup>3</sup>. Not only did they support each other's efforts to improve deteriorating Japan-America relations, but were comrades in antiquing and, thanks to the help of the Viscount, a former samurai who had served the last shogun, Heinz was able to bring to Pittsburgh many of the rarer objects in the current collection.<sup>4</sup>

Heinz had a passion for ivory and jade as well as the curious and more mundane stuff of life. The Japanese portion of his collection in the Anthropology Division at The Carnegie Museum of Natural History in Pittsburgh, Pennsylvania, varies widely, from split-toed sox (*tabi*) and wooden clogs (*geta*) to a rare, high-ranking lacquered palanquin and the arms and armor discussed here. Thanks to his long-time friendship with the Viscount, Heinz gave the people of the Pittsburgh region a glimpse of life in Japan spanning the Tokugawa (1603-1867), Meiji (1868-1911), and Taishō (1912-1925) periods.<sup>5</sup>

In time, at the request of his friend and Museum Director William Holland, Mr. Heinz became an honorary curator at the Museum, while building his own "Oriental Museum" adjacent to his main house on his estate called Greenlawn in the Point Breeze section of Pittsburgh. By

1915, when his collection numbered 5,000 accessions, he hired a Mr. Otto Gruber as a curator; unfortunately, Heinz did not live to see the Oriental Museum open. Although it did open for a short period after Heinz' death in 1919, it closed when his will was probated, and the property was razed to make way for over 51 new housing lots. Some of the Heinz objects came to the Carnegie Museum as outright bequests and some went to auction in New York, where his heirs purchased and then donated objects to the Museum.<sup>6</sup>

#### THE TOKUGAWA ART MUSEUM, NAGOYA, JAPAN<sup>7</sup>

Tokugawa Yoshichika (1886-1976), the 19th lord of the Owari branch of the Tokugawa family, established the Tokugawa Art Museum as part of the Tokugawa Rei Mei Kai foundation in 1935 to preserve his family's art, heirlooms and furnishings. The museum is located on the wooded site of the family's former 17th century mansion in Nagoya. The Museum is the third oldest and second largest private museum in Japan. 1987 additions and renovations to the original 1930s building made the Tokugawa Art Museum the best equipped and technically sophisticated traditional museum in the country.

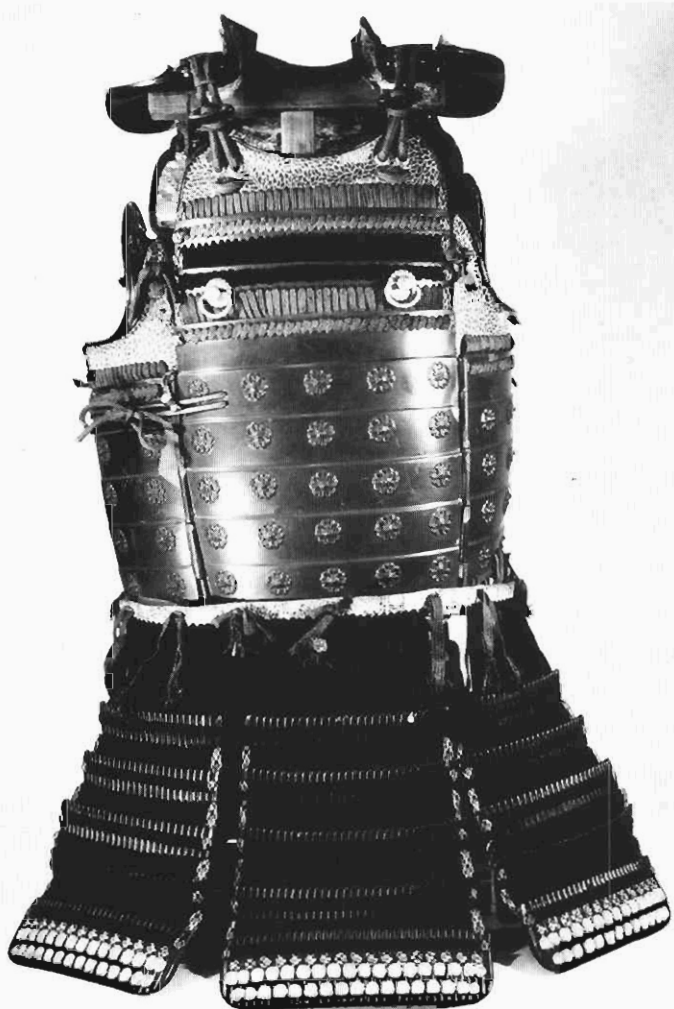
The collection contains tens of thousands of pieces and is the only intact, high-quality daimyo collection to have survived the perils of sale, dispersal, and, later, the destruction of the Second World War. The size of the collection is second only to the National Museum in Tokyo. Meticulously kept documents, catalogs, and other records establish clear provenance for all of the objects, making it the ideal collection for comparative study, particularly for objects related to the warrior class in Tokugawa Japan.

BODY ARMOR AND HELMETS (*KATCHU*)

There were ten major schools of armor makers in Tokugawa Japan: the Myôchin, Saotome, Haruta, Iwai, Yukinoshita, Bamen, Neo, Ichiguchi, Nakasone, and Sakonji. In addition, there were many independent artisans working throughout the period.<sup>8</sup> With few exceptions, they made helmets (*kabuto*) and suits of body armor (*gusoku*) based on designs worn on the battlefield by the late 16th Century which included some European influence. Such armor is called "modern armor" (*tôsei gusoku*) which distinguishes it from earlier 12th century leather harnesses (*oyoroi*; *baramaki*, laced *dômaru*) which differed greatly in design from Tokugawa pieces.

A suit of Tokugawa period modern armor consisted of a cuirass (*do*) and its matching components (*kogusoku*): a pair of sleeves (*kote*), shoulder guards (*sode*), one apron-like thigh guard (*baidate*), and a pair of shin guards (*suneate*).<sup>9</sup> Cuirasses usually had two to six plates that hinged together and opened on the right. The plates were either small iron or leather plates (*kozane*) in various shapes tied together with colored silk lacing (*ito odosbi*) or were single sheets hammered or molded to resemble the many small plates used on older or more expensive cuirasses.<sup>10</sup> Suspended from the main cuirass were multiple, tiered plates called *kusazuri* or *gesan*, to protect the lower torso. Sleeves and thighguards were usually hemp-lined brocade fabric (*iechi*)<sup>11</sup> covered in various patterns of chainmail (*kusari*) and integral small plates (*ikada*). Shoulder guards matched the materials and style of the main cuirass. Shin guards were combinations of hinged plates and sometimes chainmail on a hemp backing. Knee protectors (*tate-age*) were either integral hammered metal or were hemp or leather fabric with small iron plates shaped like the diamond pattern of a turtle's back (*kikko*).<sup>12</sup>

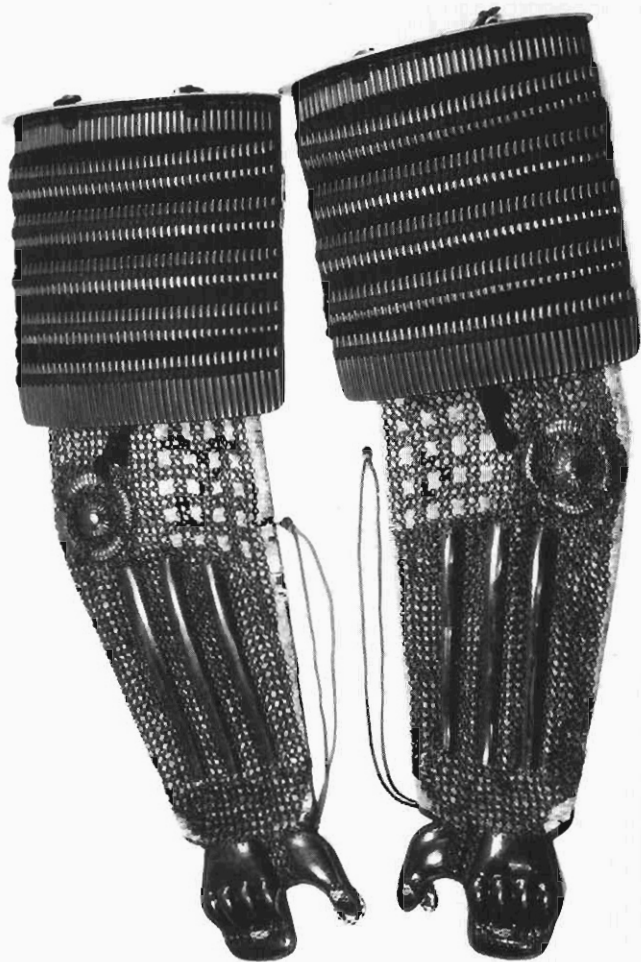
Accompanying the body armor were helmets in three basic types: multiple overlapping plates with raised ridges (*suji kabuto*); spiked helmets (*bosbi kabuto*); or helmets of fantastic designs, often executed in papier-mâché (*kawari kabuto*). All designs from the Tokugawa period have their roots in earlier periods, but the Tokugawa helmets are usually lighter or off-balance, or are made from more sumptuous materials than their earlier, battlefield cousins.<sup>13</sup>



CMNH 29691-168a (Heinz 2602)\*

Cuirass: five hinged cinnabar-lacquered plates of iron molded to resemble horizontal barrel staves (*yokohagi okegawa go-mai dômaru*); plates are decorated with rivets and raised metal to create cherry blossoms; upper chest plates (*muna-ita*) are leather-covered (*shôbeigawa*) and laced with decorative cords in purple, light blue, and navy. Five sets of lacquered tiered plates hang from the lower edge (*kusazuri*; *gesan*) by closely laced (*kebiki*) navy blue silk cords. The cuirass has an integral hemp-lined gold brocade back cushion with attached studded indigo-dyed collar (*eri mawasbi*). Two small leather-covered (*shôbeigawa*) metal epaulettes (*kobire*) cover the shoulders.<sup>14</sup>

\* "CMNH" refers to the Carnegie Museum of Natural History accession number; (Heinz 0000) refers to H. J. Heinz' original catalog number prior to the object's donation to the museum.

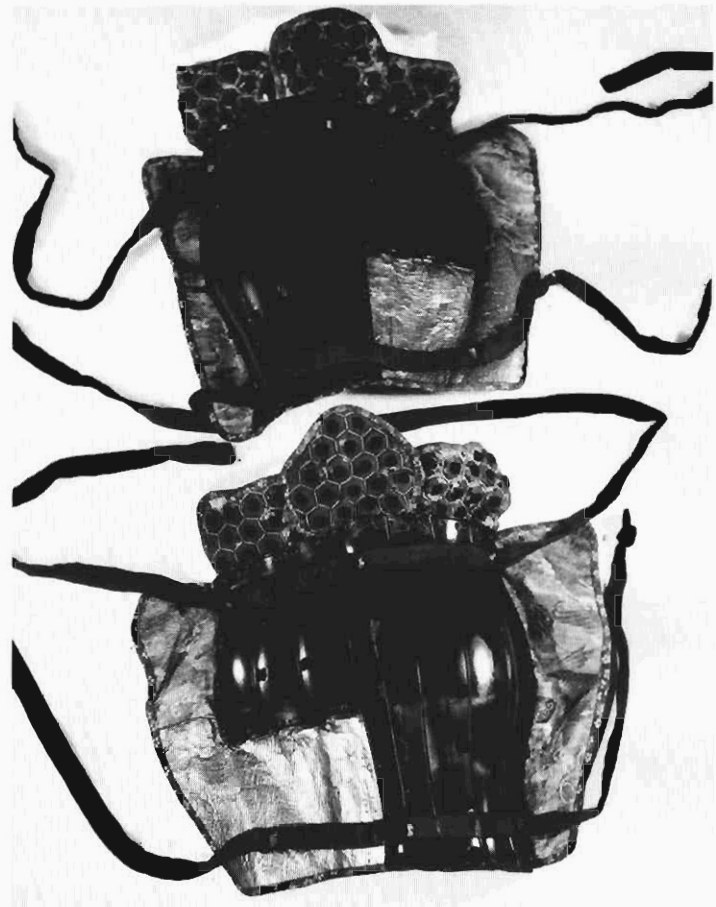


Shoulder guards (top): closely laced (*kebiki*) style shoulder guards match the *kusazuri* on the cuirass.

Sleeves: pair of matching chainmail on gold brocade sleeves which match the cuirass; indigo-dyed hemp lining.



Thigh guard (=CMNH 29691-168d): chainmail and small plate (*ikada*) on gold brocade match the sleeves. Indigo-hemp lined.



Shin guards (CMNH 29691-178a,b): matching pair of seven black-lacquered strips of iron and chainmail mounted on to hemp backing. Knee guards are leather and turtle-back shaped iron lozenges (*kikko*). Gilt leather patch on inner shin area protected wearer's leg from rubbing against upper end of long Japanese stirrup; gilding indicates use by an upper-ranking warrior.<sup>15</sup>



**CMNH 29691-169a,b** (Heinz 2604)

Sleeves, archer's (*kote*)

Armored sleeves resembling simplified "Kamakura Period" (ca. 12th-13th centuries) style.<sup>16</sup> "Armpit guard" (*wakibiki*) sleeves have double rings on central core chainmail style (*shimekaeshi*) and are arranged in eight large squares in elbow area between upper arm plate (*ichi no za ban*) and lower arm plates (*ni no za ban*). Thumbless hand guard (*namizu tekko*) and lower arm plate have crests of 7 planets made from large rounded rivets (*kasa-byo*). Ground fabric (*iechi*) of paisley brocade with scattered diamonds; white cotton lined.

181cm each

Late Tokugawa period, 19th century



**CMNH 29691-197** (Heinz 2701)

Cuirass, five-plate, with embossed Buddhist image (*go-mai uchidasbi Hotoke dô*),<sup>17</sup> with wood stand.

Iron, embossed with image of esoteric Buddhist image of Fudô-myô-ô (sk. *acala vidârâja*), "The Destroyer."<sup>18</sup>

**Signature:** Myochin Mori-ie (or Morisuke) (ca. 1568-1624). H41cm <sup>19</sup>

Momoyama-early Tokugawa period, ca. 1600-1624

## HELMETS



### CMNH 29691-172 (Heinz 2609)

Helmet, peach shape (*mono nari*)

Iron; four-plate helmet thought to have derived from Iberian helmets that reached Japan in the mid-16th century. Encircled by gilt copper brass dragon whose head forms the frontal ornament (*maedate*). Four-lame black-lacquered sloping style (*Hineno*) neck guard (*shikoro*). Small blowbacks (*fukigaeshi*) covered in red printed leather (*shôbeigawa*) with incised gilt copper edgings (*fukurin*). Stitched indigo-dyed silk lining with enforced cross strips; hole in rear (*mei-mi-no-ana*); no signature. Tie cord (*ô*) missing. H21.5cm

Helmet bowl, early Tokugawa period, ca. 1650; Front dragon ornament, mid-to-late Tokugawa period, ca. 1800<sup>20</sup>



### CMNH 29691-174 (Heinz 2611)

Helmet, spiked and ridged, 32-plate (*suji-hoshisanjûni ken*)

Russet iron; high crown with nine medium-sized rivets per plate; horse-shoe shape (*koma*) visor with traces of black lacquer on upper side and red lacquered on underside; small blowbacks (*fukigaeshi*) with round crests of crossed feathers of either the Takagi or Abe families.<sup>24</sup> Sloping (*Hineno*) neck guard (*shikoro*) of four lames of black-lacquered leather cut in rounded scallops to resemble *iyo-zane* plates<sup>25</sup>, laced together with navy blue silk cords (*ito odoshi*). Cinnabar-color dyed buckskin lining with matching silk crêpe (*chirimen*) covered padded tie cord (*ô*).

Unsigned, but in style of Saotome school, Hitachi.<sup>26</sup>

H 20cm.

Mid-Tokugawa period, ca. 1680-1751



### CMNH 29691-179 (Heinz 2708)

Helmet, ridged, 62-plate (*suji kabuto, roku-jûni ken*)

Iron, gilt copper crown ornament (*teben*); visor and medium-sized blowbacks (*fukigaeshi*) covered in leather with stencilled peony design (*shôbeigawa*); two gilt copper crests depict three whirling waves (*san tomoe*);<sup>28</sup> five-lame neck guard (*shikoro*) is black-lacquered and laced closely (*kebiki* style) with navy blue, light blue and purple silk lacing (*ito odoshi*); goes with CMNH 29691-168 suit. Unsigned, Myôchin school.<sup>29</sup>

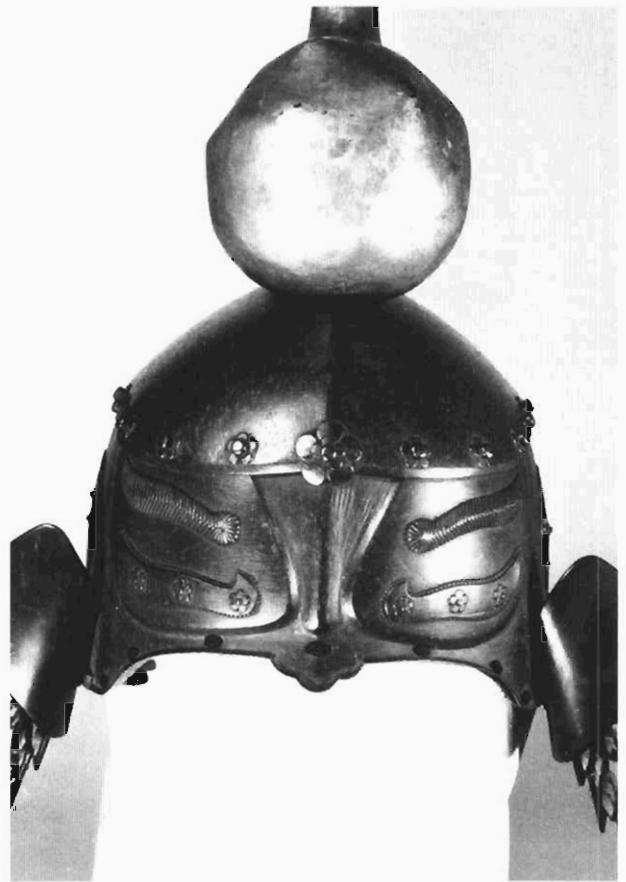
H16cm.

Mid-to-Late Tokugawa period, ca. 1780-1800.

**CMNH 29691-173** (Heinz 2610) (Right top & bottom)

Helmet, folded towel shape (*okitenugui nari*)<sup>21</sup>

Type resembles 6th Century helmets (*saika*);<sup>22</sup> unlacquered burnished iron crown attached to side pieces with large plum blossom plates which are held with smaller plum-encircled rivets; front deep repoussé eyebrows and wrinkles. Five-plate sloping (*Hineno*) neck guard (*shikoro*). Fully lined with stitched indigo-styled silk. Gilt copper gourd ornament. this type of helmet was made only by the Haruta school of Nara prefecture between 1576 and 1625.<sup>23</sup> H38cm with ornament. Momoyama-early Tokugawa periods, ca. 1600



**CMNH 29691-175** (Heinz 2612)

Helmet, fantastic (*kawari kabuto*)

Iron and papier-mâché (*bariko*), in shape of whale's tail; a high crown; matte-black lacquer with gilt images of Kinnpara and Cetaka, the child companions to the esoteric Buddhist figure of Fudô-myô-ô<sup>27</sup> (see CMNH 29691-197 above), and falling lotus leaves. Front visor decorated with gilt wave pattern. Short black-lacquered four-lame sloping (*Hineno*) neck guard (*shikoro*) laced with light green pairs of silk lacing (*sugake ito odoshi*). Fully lined with indigo-dyed stitched silk. No signature.

H32cm.

Mid-to-Late Tokugawa period, ca. 1750-1800





**CMNH 29691-203** (No Heinz Number)  
 Helmet, fantastic; Buddhist flames (*kawari kabuto*; *bittenko*)<sup>2</sup>  
 Papier-mâché (*bariko*) over iron core; black-lacquered five-lame sloping (*Hineno*) neck guard (*shikoro*) with upturned edges. Small, tab-like blowbacks (*fukigaeshi*). Front ornament (*maedate*) missing. Lining removed. Unsigned.  
 H22.5cm.  
 Mid-to-Late Tokugawa period, ca. 1800



**CMNH 29691-181** (Heinz 2711)  
 Helmet, fantastic, acorn shape (*kawari kabuto*, *toppai nari*)<sup>30</sup> 24-plates ridged helmet with front devil ornament (*maedate*). Brackets for missing side horn ornaments (*wakidate*). Six-lame sloping (*Hineno*) neck guard; gilt lowest lame. Unsigned; possibly Hitachi or Ishikawa Myôchin.<sup>31</sup>  
 H24.5cm.  
 Mid-to-Late Tokugawa period, ca. 1751-1800



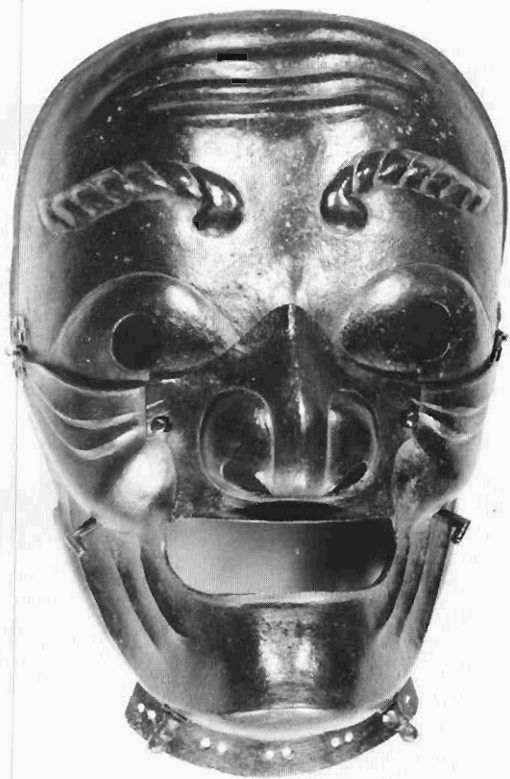
## FACE ARMOR (KATCHŪ MEN)

Japanese face armors are generally classified as either full or partial face coverings and then by design characteristics within either group. Most face armor designs derived from *nob* and *kyōgen* theater masks as well as others used in Shinto festivals and dances.<sup>33</sup> Many represent specific characters, animals, and supernatural spirits. Most face armors were hammered or cast iron, although a few rare instances of molded and carved leather are known.<sup>34</sup> It was standard procedure to lacquer the inside of face armor with red (cinnabar) lacquer to protect the face from rubbing against bare metal and to cast a fierce red reflection down on the wearer's face.<sup>35</sup>

The most prolific Tokugawa period face armor covered the lower portion of the face (*hōate*) below the eyes (literally called "*me-no-shita*").<sup>36</sup> They had attached removable noses, ears, a drop hole for sweat drilled into the underside of the chin, open mouth, often with teeth, suspended throat guard and optional beard and/or

moustache made from bear fur or yak, wild boar or horse hair.<sup>37</sup> Tokugawa period "*me-no-shita*" face armors came in four basic styles, with infinite variations within each:<sup>38</sup> *oiebō*, made by the Iwai or Haruta schools; *ressei*, with deeply embossed wrinkles which embodied the image of the passion and violent nature of the virile warrior; *ryubu*, image of the noble warrior; *Daikoku*, image of one of the seven gods of good luck who is a black man. Additionally, many "*me-no-shita*" face armors incorporate images of people, animals, and mythological characters.

Most Tokugawa Period face armors complemented a specific suit of armor; however, the Heinz examples came to The Carnegie as individual objects. Three of the four pieces in the Heinz collection are *ressei* style *me-no-shita* type face armors. Accession no. 29691-171 appears to be a full face armor (*sōmen*); however, careful examination revealed that the upper portion is a late Meiji Period addition to a Tokugawa period *me-no-shita* piece.<sup>39</sup>



**CMNH 29691-171** (Heinz 2607)

Face armor, *me-no-shita* type, *ressei* style.

Upper portion added to create appearance of full face armor (*sōmen*); throat guard (*tare*) missing. L23cm; W16cm.

Lower portion, (true *hōate*),

Late Tokugawa period; early 19th Century

Upper portion, Meiji period, late 19th Century



**CMNH 29691-200** (no Heinz number)

Face armor, *me-no-shita* type, *ressei* style with horse hair mustache, laced and knotted three-lame throat guard (*tare*). Goes with CMNH 29691-167 armor and 29691-195 helmet. W16.5cm.

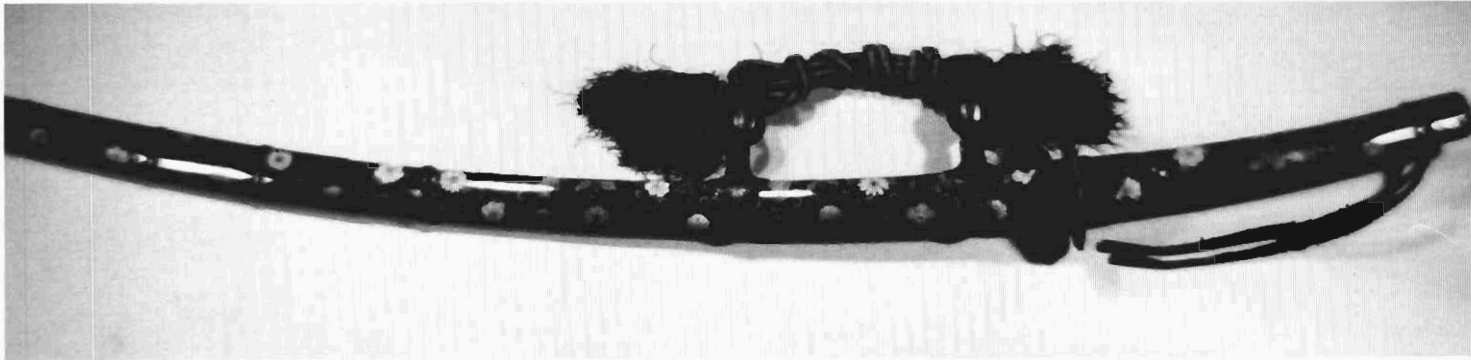
Late Tokugawa Period, ca. 1853

*Tachi* blades were longer than 60cm, worn suspended at the side with the curved cutting edge down, unlike the *katana*, which was worn thrust into the waist cutting edge up.<sup>40</sup> Mounted warriors used the *tachi* blade during the twelfth through fourteenth centuries, but its replacement by the *katana* relegated the *tachi* to formal and/or ceremonial use. In addition, the *tachi* has always been a presentation or commemoration piece, given from one warrior to another or dedicated at shrines.

The Heinz blade, though old, is one of the *kazu uchimoni*, or *byaku kazu juumei*, meaning a piece made as

a production item by a group of makers using the same signature over several generations. Many of the sword makers in the town of Osafune in Bizen (now Okayama Prefecture) fall into this category of blades.<sup>41</sup>

The cloisonné mounting (*koshirae*) dates from the Meiji Period and probably was given as a commemoration piece during either the Sino-Japanese War (1894-1895) or the Russo-Japanese War (1904-1905). It reflects the Meiji Period efforts to integrate European styling into the *tachi* tradition.



CMNH 29691-251 (no Heinz number)

Long sword, *tachi*

Steel blade, cloisonné mounting (*koshirae*). Overall L 110cm.

Blade inscription: Osafune Sukesada<sup>42</sup> of Bishû (Bizen) A day in the second month of the Eighth year of Taiei (1528). Mounting (*koshirae*). Mid-late Meiji Period, ca. 1890-1900.

### POLEARMS: SPEARS AND HALBERDS (*YARI AND NAGINATA*)

By the Tokugawa period, polearms, like most other arms and armor, were guard duty weapons or regulated, ceremonial accoutrements in the *sankinkôtai*,<sup>43</sup> wedding, and other festival processions. Therefore, Tokugawa Period polearms became quite decorative. Also, because spears used in the *sankinkôtai* processions were a means to identify various warrior groups from a distance, they were quite long (many over nine feet, such as CMNH 29691-268) and unwieldy as an actual combat weapon (*mochi-yari*, literally, "holding spears").<sup>44</sup>

The Tokugawa shogunate assigned specific spearhead and accompanying scabbard (*saya*) designs to each warrior house in addition to house crests (*mon*) which they registered and published in books called *bukan*.<sup>45</sup>

Low ranking warriors, monks, and women all used halberds (*naginata* and *nagamaki*) as a form of home defense. Woman's halberds were slightly smaller and lighter than the man's type.<sup>46</sup> Highly decorated halberds with gilt fittings, mother-of pearl inlay, and special lacquered rattan wrappings (*hirumaki*) were reserved for higher ranks for use in ceremonial processions, including weddings.<sup>47</sup>

Japanese classify polearms by the shape of the blade, shaft type, scabbard type, and general use.<sup>48</sup>

**Blade Shapes:** Straight blade/spear (*su yari*); Hooked blade/spear (*kama yari*); Socketed blade/spear (*fukuro yari*); Tanged blade/spear (*nakago yari*); Long blade/spear (*ômi yari*); Naginata blade/halberd (*naginata*); Nagamaki/halberd (*nagamaki*).

**Pole types:** Shell inlay in lacquer (*raden*); long (*naga tsuka*); by specific length (*ni -ken han* = 454.5cm; *san ken* = 545.4cm, and *san ken han* = 636.3cm); with crossbar (*kagi*); with pipe or tube fitting (*kuda*); with swordguard (*tsuba*).

**Scabbard types:** Plain lacquer; textured lacquer (resembles stucco) (*ishime*) or with various types of fur

**Use:** Combat weapon or ceremonial

The Heinz collection contains eleven spears (*mochi-yari* and *makura-yari*), five halberds (*naginata*, one of which is actually a *nagamaki* in a unique mounting), and two bladeless mountings (*koshirae*). Many of the shafts have shell inlay in lacquer (*raden*) and/or red lacquer decoration. The shogunate passed regulations forbidding the use of such weapons by lower ranking members of the warrior class.<sup>49</sup> Taken as a whole, the Heinz polearms represent a basic variety of the polearms used by upper-ranking warrior houses in the latter part of the Tokugawa Period.

Note: The Heinz collection has been stored with the blades inserted into their mountings and most of the blades have “frozen” into the shafts, therefore artisan identification and exact dating are impossible at this time. All of the Heinz polearms’ blade makers, dates, and other information remain to be properly identified, and dating is based on overall appearance of the blade and mounting combination.

### SPEARS (*yari*)

**CMNH 29691-272** (no Heinz number) (Left)

Spear, palanquin or display, (*jūji makura yari*)<sup>51</sup>

Steel blade, “T” shape with curved crossbar; scabbard missing; Note: not intended for its mounting (forced). Wood shaft, upper portion lacquered rattan wrap (*hirumaki*); gold gilt blade ferrule and hemp handstop. Note: mounting has been disassembled and reassembled improperly with unmatched and/or excess fittings. Companion to CMNH 29691-271.

L (overall) 143cm; (shaft only) 134cm.

Mid-Tokugawa Period, ca. 1760

**CMNH 29691-271** (no Heinz number)

Spear, palanquin or display, (*ryōshinogi su makura yari*)

Long, flat steel blade ridged front and back, scabbard missing. Wood shaft, upper portion lacquered rattan wrap (*hirumaki*); gold gilt blade ferrule and hemp handstop.

L (overall) 143cm; (shaft only) 134cm

Mid Tokugawa Period, ca. 1760





**CMNH 29691-270** (no Heinz number) (Far Left)

Spear, boar, *inoshisbi no yari*.<sup>50</sup>

Steel blade, "boar hunting" shape; scabbard missing. Wood shaft, completely covered in black lacquer and mother-of-pearl inlay; gold gilt steel fittings and red-lacquered hemp handstop.

L (overall) 138.5cm; (shaft only) 128.5cm.

Late Tokugawa Period, 19th Century

**HALBERDS (*Naginata*)**

**CMNH 29691-273** (no Heinz number)

Halberd, trousseau, *konrei naginata*<sup>52</sup>

Steel blade, scabbard missing. Wood shaft; all-over gold vine scroll in black maki-e lacquer; interspersed 9-planet crest.<sup>53</sup> Silver gilt fittings, some inscribed with matching vine scroll pattern; wrought iron halberd style endcap.

L (overall) 251cm; (shaft only) 211cm.

Late Tokugawa period, ca. 1800

**CMNH 29691-257** (Heinz 3335)

Halberd with crossbar, *kagi naginata*

Steel blade; cormorant's neck shape (*unokubizakuri*); scabbard missing wood shaft; upper portion lacquered rayskin; silver gilt copper fittings, gilt hemp handstop; wrought iron crossbar and endcap.

L (overall) 240.5cm; (shaft only) 196.5cm.

Late Tokugawa Period, 19th Century.

**CMNH 29691-258** (Heinz 3341)

Halberd, display, *kazari naginata*

Steel blade; cormorant's neck shape (*unokubizakuri*); scabbard missing wood shaft; upper portion black lacquer and mother-of-pearl inlay; plain copper fittings; gilt hemp hand stop; wrought iron endcap.

L (overall) 217cm; (shaft only) 196cm.

Late Tokugawa Period, 19th Century

**GUARD DUTY/POLICE/FIRE POLEARMS AND GEAR**  
**(MITSU DÔGU/JINGASA/KATABIRA)**

**MITSU DÔGU**

Related to spears and halberds are special polearms used for policing and firefighting: the two-pronged pitchfork (*sasumata*) and the large and small sleeve tangles (*tsugubô* and *sode garumi*, respectively). Together they are considered as a set called the *mitsudôgu*, literally, "the three weapons."<sup>54</sup> Used at castle and mansion gates, roadway checkpoints (*sekisbo*), etc., low-ranking shogunate-employed warriors (*dôshin*) pinioned criminals or tangled their long kimono sleeves. They also used these weapons to pull apart burning buildings, rake off debris, etc.<sup>55</sup>

**CMNH 29691-278** (no Heinz number)

Large sleeve tangler, *tsugubô*<sup>58</sup>

Blunt wrought iron spikes mounted onto T-shaped, red-lacquered shaft (*tsuka*) of Japanese evergreen oak (*kashi*); three lines of blunt, iron spikes along upper portion ending in a loop to form handstop; clear lacquered lower shaft; iron pointed endcap.

L (overall) 191cm

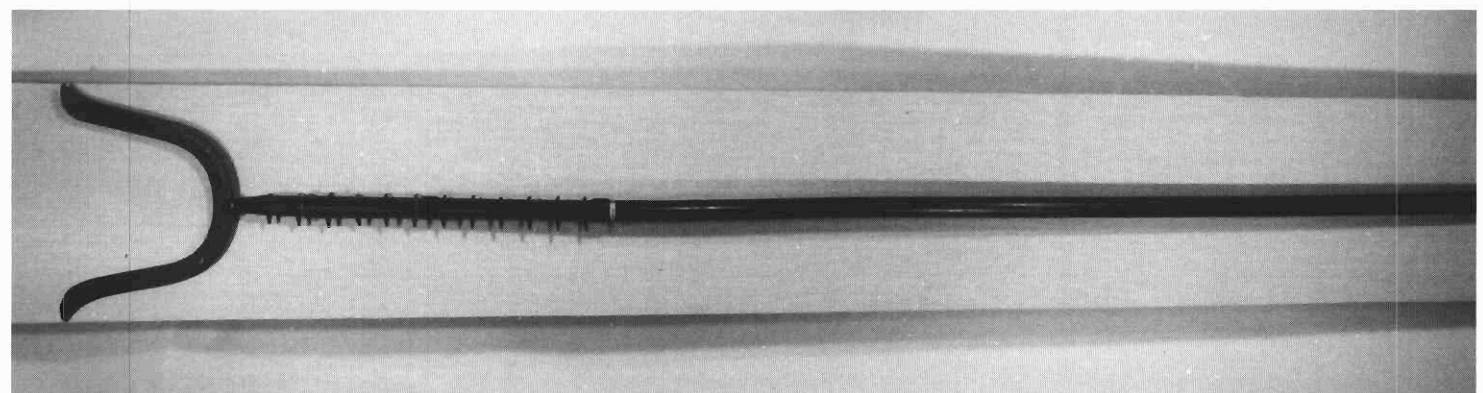
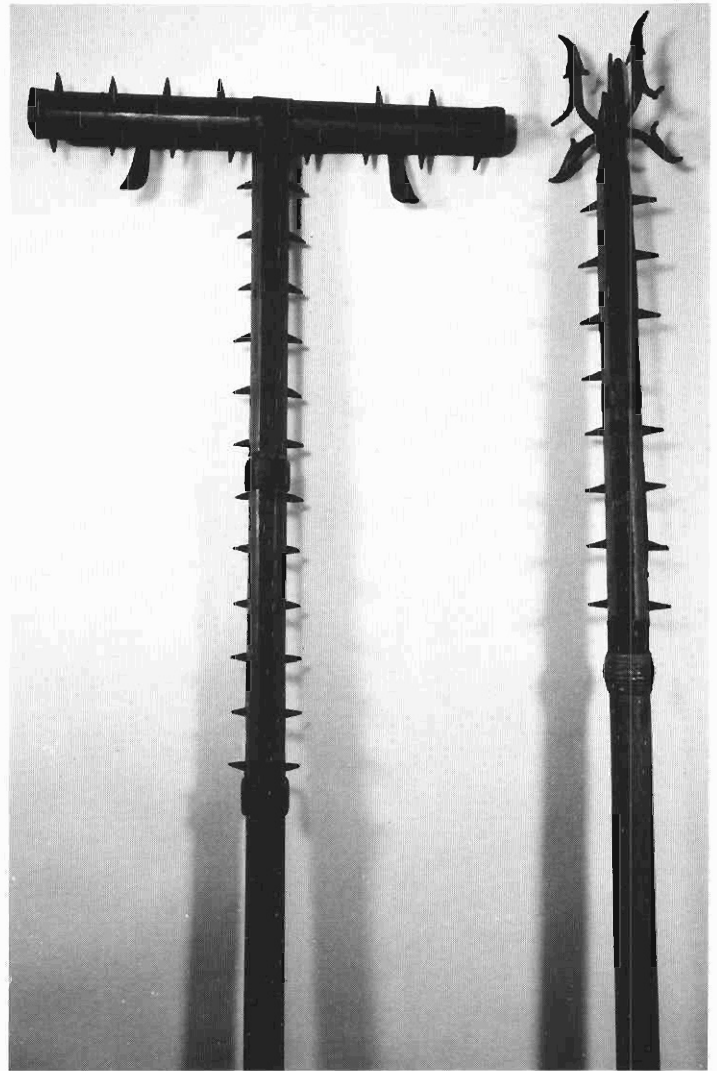
Late Tokugawa Period, ca. 1850

**CMNH 29691-276** (no Heinz number)

Small sleeve tangler, *sode garumi*<sup>56</sup>

Wrought iron barbs mounted into a red-lacquered shaft (*tsuka*) of Japanese evergreen oak (*kashi*); three lines of blunt, iron spikes along upper portion ending in a loop to form handstop; clear lacquered lower shaft; iron pointed endcap.

L (overall) 194cm



**CMNH 29691-277** (no Heinz number)

Two-pronged pitchfork, *sasumata*<sup>57</sup>

Steel blade mounted into a red-lacquered shaft (*tsuka*) of Japanese evergreen oak (*kashi*); three lines of blunt, iron

spikes along upper portion ending in a loop to form handstop; clear lacquered lower shaft; iron pointed endcap.

L (overall) 210cm

Late Tokugawa Period, ca. 1850

## POLICE AND FIRE HELMETS (*JINGASA*)

In 1716 Yoshimune, the 8th Shogun, instituted the first firefighting brigades in Edo (now Tokyo), necessitating protective helmets and uniforms to distinguish one brigade from another.<sup>59</sup> Tokugawa Period police and fire helmets developed from 16th century foot soldier's helmets (*jingasa*). By the end of the Tokugawa period, such helmets were made in a variety of styles and materials including iron and papier-mâché (*bariko*), depending on rank, geographic location, and season. Later Tokugawa period *jingasa* differed from earlier ones.

Local shogunate-employed warriors (under the *bugyô* level, particularly the *yoriki*) wore certain styles of *jingasa* as part of their police or fire uniform. Regional administrators (*daikan*) and other high-ranking shogunate officials (i.e., those permitted the privilege of riding horses) down to the local ranks wore an elaborate version of *jingasa*, called *basorigasa*, usually embellished with his house crest and gilt decorations as part of his uniform and symbol of office.<sup>60</sup>



**CMNH 29691-250** (Heinz 3346)

Officer's helmet, *basorigasa*<sup>61</sup>

Papier-mâché, faded black lacquer, gilt crest of gentian flower (*rindo*) on center front.<sup>62</sup>

H14cm

Late Tokugawa-early Meiji Period, ca. 1860-1870

### Chainmail Jacket (*kusari katabira*)<sup>63</sup>

Originally, a *katabira* was a cloth jacket worn under large leather and lace armor (*ô-yori*) in the 13-14th Centuries. During the 16th Century, chainmail (*kusari*) and collars reinforced with small turtleshell shaped iron plates (*kikko*) were added in imitation of European designs and worn either alone or under armor. By the Tokugawa Period, low ranking members of the warrior class (*dôshin*) wore *katabira* jackets alone or with armored sleeves (*kote*) and/or shinguards (*suneate*) for guard duty and in times of crisis. Warrior class women also wore them during halberd practice.<sup>64</sup>

**CMNH 29691-170** (Heinz 2605)

Chainmail Jacket, *kusari katabira*

Steel chainmail and leather patches mounted on white linen.

L73cm

Late Tokugawa Period, ca. 1800



## ARCHERY EQUIPMENT (KYŪGU)

In the Tokugawa Period, archery was one of the requisite skills to be practiced by upper class warriors as well as by Buddhist and Shinto priests in special ceremonies.

According to the *Laws for Military House (Buke Shobatto)* set out by Ieyasu, the first Tokugawa shogun, in 1615, and repeated by all 14 of his successors:

The study of literature and the practice of military arts, including archery and horsemanship, must be cultivated diligently.

...Archery and horsemanship are essential skills for military men.<sup>65</sup>

The Heinz collection contains only the remains of a ceremonial quiver (*utsubo* style) and ten arrows (*ya*) (points removed). During the Tokugawa Period, members of the warrior class considered such *utsubo* quivers as part of their required outward decorative furnishings (*kazari mono*) and often prominently displayed them along with swords and other weaponry.<sup>66</sup>

### CMNH 29691-191 and 202 (Heinz 2724)

Ceremonial quiver (*utsubo*) and arrows (*ya*)

Broken into two halves; upper portion is papier-mâché (*bariko*); the lower portion is a wooden box with metal rings and fittings on the exterior and horizontal grooves on the lower interior to accommodate arrows; both portions faded black lacquer decorated with a central gold *unban* (Buddhist cloud-gong shape) crests;<sup>67</sup> arrows (10), each lacquered wood with remnants of gilding.

Quiver (assembled) L102.5cm; W9.5cm; D7.5cm

L 84cm

Late Tokugawa Period, ca. 1800



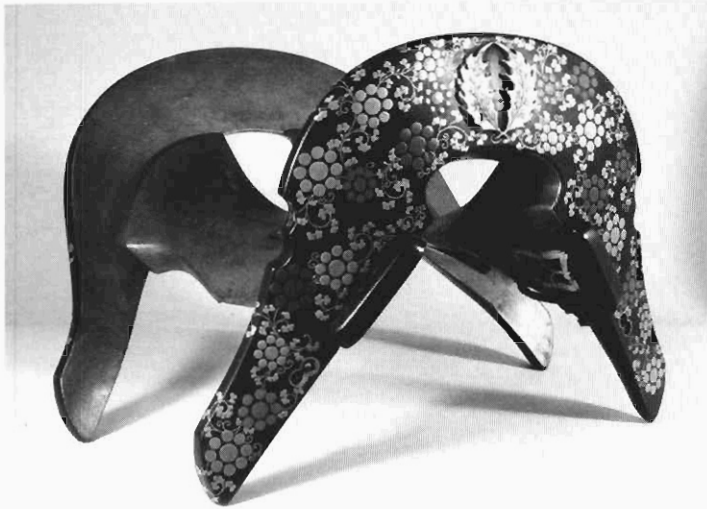
## HORSE GEAR (BAGŪ)

Like archery, horse riding became the privilege of the mid-to-upper ranks of the military class, and thus an obligatory part of their military training as well as an outward symbol of rank. Upper-echelon warriors in the Tokugawa Period rode horses in processions such as the *sankinkôtai* to Edo (Tokyo), the first ride of the new year (*norizome*) or in ritual hunts (*maki-gari*) held periodically as a form of peacetime military training and as a way to assess popular attitudes towards authority. Mid-rank samurai rode horses as part of their jobs, such as riding guard duty around the acreage within castle precincts or as a kind of mounted police (*“umamawasbi”*: literally, going around on horses)<sup>68</sup>

Horses and horse gear also played a major role in local

festivals (*matsuri*) and parades. In many festivals, horses paraded tall, flamboyant decorations on top of specially decorated leather pads and saddles called “horse towers” (*uma-no-to*).<sup>69</sup>

A basic set of Tokugawa Period horse gear (*kaigu*) consists of a wooden saddle (*kura*); saddle cover (*kura-ôji*); seat cushion (*kurashiki*); “blanket,” a 2-layer leather pad placed between the saddle and the horse’s back (*sbitagura*); leather flaps to prevent horse sweat and mud from staining the rider’s clothing (*aori*); hip strap (*sbirigai*); girth (*barubi*); stirrup straps (*cbikaragawa*); stirrups (*abumi*); bits (*kutsuwa*); lead rope (*sashinawa*); and reins (*tazuna*). Warriors also added tassles, mane ornaments, and other decorations according to rank and occasion.<sup>70</sup>



## SADDLES (*kura*)

Japanese saddles (*wagura*) are four-to-six pieces of wood; the front pommel panel (*maewa*) and rear cantle panel (*shizuwuwa*) are usually oak or maple hardwoods and the two-to-four sidebars (*igi*) are of softer pine for riding comfort. Some styles of pommel and cantle panels have a projection when viewed from the side to reduce weight and increase strength where needed. The sunken portion of the projection is an *umi* (sea) and the projection is the *iso*, or shore. If the saddle has an *umi*, it is an *umi-ari* saddle, if not, it is an *umi-nashi* saddle.<sup>71</sup>

Tokugawa decorated saddles came in three varieties: *yamato gura*, decorative ceremonial saddle used in festivals but not ridden; *suikangura*, informal variety of *yamato gura* intended for riding; and *gunjigura*, military camp saddle, robust in construction with fingergrips (*tegata*) cut into the front pommel. Although the *suikangura* and *gunjigura* look alike to the untrained eye, they differ proportionally. The *suikangura* pommel and cantle design is based on equal fourths of a circle while the *gunjigura* is based on equal thirds.<sup>72</sup> Also, the true *gunjigura* parts are thicker and heavier to withstand the harder riding conditions of battle than the *suikangura*.<sup>73</sup>

The Heinz collection contains two examples of *suikangura* style saddles, although CMNH 29691-193 is from the early Tokugawa Period (ca. 1624-1629) and its sturdier construction reflects the strength required in military saddles used in battles until 1615.



### CMNH 29691-192 (Heinz 2827)

Japanese informal saddle (*suikangura*); possibly woman's;<sup>74</sup> black-lacquered with high relief lacquer decoration of scrolling vines interspersed with nine-planet crests in gold, blue and magenta;<sup>75</sup> central gilt copper crests of crossed holly leaves. H26cm; L36cm

No inscription

Late Tokugawa Period, 19th Century

### CMNH 29691-193 (Heinz 2827)

Japanese informal saddle (*suikangura*) decorated with high-relief lacquer and mother-of-pearl phoenix on black lacquer ground.<sup>76</sup>

H28.5cm; L38.3cm

Inscribed *kao*, a maker of the Ise School

Early Tokugawa Period, Kanei era, 1625-1629



## LEATHERS

### CMNH 29691-183 (Heinz 2713 and 2715)

Leather pad, pair (*aori*) for festival use;<sup>77</sup> tanned leather decorated with gold gilt gourds, vines, and leaves, symbols of prosperity.<sup>78</sup>

L63.5cm; W51cm

Late Tokugawa Period, 19th Century



## STIRRUPS (*Abumi*)

Tokugawa Period stirrups consist of an iron frame with slatted wood insoles, long upper stems and long, flat soles (*shitanağa abumi*). The insoles are usually either lacquered or inlaid with mother-of-pearl and the exterior metal portions are often decorated with maki-e lacquer or several types of damascene (*zôgan*): filigree (*ito zôgan*); flat inlay (*hira zôgan*); textured, filigree and flat (*nunome zôgan*); and high relief (*takaniku zôgan*).<sup>79</sup>

All Tokugawa period stirrups either matched a companion saddle or were made as a “presentation gift” from one lord to another or to a retainer and kept as a reminder of warrior heritage but never actually used.

Every stirrup school had its own proportions for the length of the stem in relation to the body, depth of the front

“pigeon breast,” slope of shoulders, stem cutout design, etc., often handed down through generations in design books. Proportions of stirrups designed for actual use differed from the gift variety. Many presentation stirrups are foreshortened and a foot would not fit into them. Red lacquered interiors held up under riding and weather while mother-of-pearl inlay suggests symbolic display pieces (*kazari mono*).

Stirrups also reflected regional differences. Flashy and bold designs usually came from Kaga han (Ishikawa Prefecture), home of the Maeda, bold patrons of the arts. Nagoya stirrups follow the stately and sedate taste of the Owari Tokugwa. Kyoto stirrups (from which both the Kaga and Nagoya schools derived) are characteristically more delicate and flowery in design as might be expected from the home of the courtly tradition.

**CMNH 29691-185a,b** (Heinz 2717)

Stirrups *abumi*

L32cm

Signed Murakami Kyozaemon (Nagoya)<sup>80</sup>

Tokugawa period, 19th Century



**CMNH 29691-188a,b** (Heinz 2721)

Stirrups, *abumi*

L30cm

Signed Tomonao (Kyoto)<sup>81</sup>

Late Tokugwa Period, 19th Century



The foregoing catalog of body armor and helmets, ceremonial swords, polearms, policing weapons, archery equipment and horse gear is not merely a collection of beautiful objects of art. They are, after all, stored in the Division of Anthropology of the Carnegie Museum of Natural History, not the Museum of Art. There is a very good reason for this. These arms and armor that H.J. Heinz collected are "instruments of culture"—a culture devised by Tokugawa Ieyasu and perfected by his descendants to keep rival lords at bay and preserve the Tokugawa line in the office of shogun.

Tokugawa Ieyasu, the first shogun of the early modern period of Japan, and his grandson, Iemitsu, were very clever men. Ieyasu had outwitted, outwaited, and outfought his rivals over the course of his lifetime. He knew all too well how tenuous the Tokugawa hold was on the office of shogun. He knew, too, that although there had always been an emperor in Japan, the real power as of 1603 rested in the hands of the shogun and he meant to keep it. But how? How to keep some usurper from routing his house and restarting the wars that had plagued Japan for centuries? Under the guise of "law" such as the "Laws for Military Houses" (Buke Shohatto) and other later regulations, the Tokugawa turned weapons of war into the basis of a new culture based upon old images of warrior pride. Ieyasu and Iemitsu created ritual hunts, ceremonial processions, and other seasonal festivities that required the use of specific types of highly decorative arms and armor that were differentiated by rank and position.

As we have seen, long, unwieldy "mochi yari" spears identified warrior houses from a distance but were next to useless as a weapon on the road to Edo during *sankinkotai* processions. Brides arrived at their new homes escorted by halberds. Body armor maintained old battlefield style but were made of gilt metals and brocades. Yet such highly decorated pieces were not merely decorations: each suit was made to fit and worn as required on the first ride of the New Year and other occasions, often accompanied by an equally decorative helmet made of paper-mâché. Old weapons were recycled and redecorated to meet the new social demands imposed by the Tokugawa. Thus, old weapons did not become obsolete and weapons makers were not displaced but rather became major contributors to the new society of warriors who lived without war for over 250 years under the Tokugawa. The arms and armor from the Heinz collection at the Carnegie Museum of Natural History presented here do not symbolize what we Westerners recognize as "samurai" lifestyle or mentality of early modern Japan, but rather were the creators of a culture that espoused military traditions without the tragedy of war.

## INTRODUCTION

### H. J. Heinz and The Carnegie Museum of Natural History

1. For a history of H.J. Heinz the businessman, see Alberts, Robert, *The Good Provider*, 1973.
2. Alberts, 1973, p. 201; Brown, F., 1916, pp. 3-11; Heinz' unpublished 1902 travel diary; "Sunday School Tourists," *Japan Times*, Heinz Hakasei Raichaku (Dr. Heinz Arrives), *Japan Times*, March 19, 1913.
3. Numerous correspondence between Heinz and Shibusawa remain in the Heinz Family Office and the Anthropology Division at the Carnegie Museum of Natural History in Pittsburgh, PA.
4. Alberts, 1973, pp. 205 and 233; *Shibusawa Denki Dhiryō* (Shibusawa Biographical Materials), Vol 33, p. 40.
5. Catalogue of the H.J. Heinz Collection (unpublished); CMNH Heinz accession records.
6. Alberts, pp. 229-230.

### The Tokugawa Art Museum

7. *The Tokugawa Art Museum*, 1990, p. 1.

## THE CATALOG

### Body Armor and Helmets

8. Sasama, 1987, pp. 917-1013; Yamagami, 1928, Vol. I, pp. 405-503; Yamagishi and Miyazaki, 1990, pp. 298-305.
9. Yamagami, 1928, Vol. II, pp. 1552-1654.
10. Sasama, 1989, shows over 19 different plate/cord combinations.
11. Yamagami, 1928, Vol. II, P. 2324.
12. Sasama, 1989, p. 277.
13. Miura Hiromichi, Japan Society for Research and Preservation of Helmets and Armor, Personal communication, 1987.
14. Overall, suit closely resembles a similar suit made by the Myōchin in Kanazawa in the 18th Century for an upper-ranking warrior (*Aitō*, 182(7/1991):8).
15. Garbutt, 1912, p. 140.
16. Excellent examples from the Kamakura Period remain in the Kasuga Taisha shrine collection in Nara City.
17. Yamagami, 1928, Vol. I, pp. 426 and 485, Vol. II, P. 1600.
18. Sawa, 1976, pp. 103-106; Iwano *et al*, 1979, pp. 41, 50, and 78.
19. Sasama, 1987, p. 1304.
20. Sasama, 1972, pp. 216-220; Sasama, 1988, p. 375.
21. Nara Prefectural Museum, 1987, p. 28.
22. Sasama, 1988, pp. 78-82.
23. Nara Prefectural Museum, 1987, pp. 83-89.
24. Numata, 1928, pp. 801-813.
25. Small (2" x 3") plates with rounded or pointed upper ends laced or knotted together in various patterns; named for the area of Shikoku island where design supposedly originated.
26. Parallel in Sasama, 1972, Vol. III, pp. 296-297.

27. Iwano, *et al*, 1979, p. 47; Sawa, 1976, pp. 105-107.
28. Numata, 1928, pp. 1129-1192.
29. Although unsigned, the method of overlapping flat ridged plates parallels that of the Myōchin school; parallel in the Ii coll., Hikone, published in Hikone Castle Museum, 1987, pp. 39 and 40; same applied to CMNH 29691-180.
30. Sasama, 1988, p. 360.
31. Sasama, 1972, Vol. II, p. 182.
32. Nakamura, 1988, pp. 228-229; Sawa, 1976, pp. 276-279.

#### Face Armor

33. Tokugawa, Cort, and Bethe, 1977, pp. 244-245, 358-359, and 262-263; National Noh Theatre, 1984:4 and 15, 1985:16-17 and 20-23, 1987:30-32.
34. Iida, 1991, has several large color plates of previously unpublished pieces.
35. Sasama, 1989, pp. 359-364.
36. Arai, 1740, unpagged; *Koji Ruien, Heijibu*, 1978, pp. 1886-1893; Yamagami, 1928, Vol. 2, 2219-2274.
37. Sasama, 1982, pp. 46, 89, 91, 153, and 568; Sasama, 1987, pp. 718-719.
38. Iida, 1991, pp. 199-203.
39. Iida, Kazuo, March 1991, Personal Communication.

#### Ceremonial Sword

40. Homma and Sato, 1969/78, Vol. I, pp. 230-234 and 329; Joly and Inada, 1979, pp. 106-111; *Nihon Rekishi Daijiten*, 1979, Vol. 6, p. 480; *Teijō Zakki*, 1928 ed., pp. 452-469.
41. Iida Kazuo, January 1992, Personal Communication.
42. Bizen Osafune Museum, (no date), pp. 20 and 48; Homma and Satō, 1982, p. 246; Koizumi, 1931, pp. 156-157; Satō, 1985, Vol. 2, pp. 305-377.

#### Polearms

43. *Sankinkōtai* means "alternate attendance," a Tokugawa period system in which each daimyo was required to spend part of his time in his home fief and part in Edo (now Tokyo) at the shogunal court. The daimyo and his retinue travelled back and forth in a formal procession.
44. Iida, 1973, pp. 132-156; Yamada and Numata, 1978, pp. 207-209.
45. The shogunate published these *Bunkan* periodically and many are still available to scholars.
46. Tsubota, 1978, pp. 72-74.
47. Decorated halberds were a feature of upper-ranking warrior brides' trousseaus; Tokugawa Art Museum, 1991, pp. 33, 155-158, and 163.
48. Knutsen, 1963, all; Yamada and Numata, 1978, pp. 138-192.
49. Yamada and Numata, 1978, pp. 204-206.
50. Blade type used for hunting wild boar (*inushishi-gari*) but has been remounted into lightweight shaft entirely covered in mother-of-pearl inlay, reducing the blade to mere decorative use.
51. Saitama Prefectural Museum, 1987, P. 57; Iida, K., 1973, pp. 25-27 and p. 140; Homma and Satō, 1968, pp. 48-51 and 169-177.
52. See note 57 above; *Koji Ruien, Reishikibu I*, 1979, pp. 1021-1224.
53. Numata, 1928, pp. 305-317.

#### GUARD DUTY/POLICE/FIRE POLEARMS AND GEAR

54. Osaka Castle Museum, 1986, p. 16; Hyogo Prefectural Museum, 1985, P. 52.
55. Sasama, 1980, pp. 250-251.
56. Sasama, Y., 1989, p. 428.
57. Sasama, Y., 1989, pp. 338-339.
58. Doi, in *Aitō* 182 (7/1991): 9; Sasama, 1981, p. 474.
59. Tamura, 1984, p. 641.
60. Horiuchi, 1971, pp. 220-229. Sasama, 1980, pp. 80-83 and 280-282; Sasama, 1991, pp. 86-87 and 134-141.
61. Horiuchi, 1971, p. 210; parallel: Tokugawa Art Museum Catalog Misc. Weaponry, No. 52.
62. Numata, 1928, pp. 472-483.
63. Yamagami, H., 1928, pp. 472-483.
64. Tsubota, 1978, Vol. 8, pp. 78-79; Vol. 9, pp. 72-74.

#### ARCHERY EQUIPMENT

65. Copy dated 25th day, 9th month of the 6th year of Ansei (1859) is reproduced in Tokugawa Art Museum, *Shogun!*, 1983, translation adapted from Lu, Vol. I, 1973.
66. *Koji Ruien, Heiji Bu*, 1980 ed., pp. 1575-1617 and 1700-1768; *Teijō Zakki*, 1928 ed., pp. 356-411.
67. Numata, 1928, pp. 506-508.

#### HORSE GEAR

68. Japan Racing Association and Yoshikawa Kōbunko, 1991, pp. 23-36; Shimizu, *et al*, 1988, pp. 280-283.
69. Atsuta Shrine Museum, 1983, pp. 6-7.
70. Japan Racing Association and Yoshikawa Kōobunkan, Bol. 4, 1991, ii-v.
71. Japan Racing Association and Yoshikawa Kōobunkan, Vol. 4, 1991, pp. ii and 6-7; Negishi Equine Museum, 1979, unpagged; Sasama, 1982, pp. 55 and 110.
72. Japan Racing Association and Yoshikawa Kōbunkan, Vol. 4, 1991, p. 6; Sasama, 1989, p. 221; Tokugawa Art Museum, Ms. 26, Vol. 6, unpagged.
73. Atsuta Shrine Museum, 1983, p. 4; Sasama, 1982, p. 399.
74. Sato Toyozō, Personal Communication, 1991.
75. Numata, 1928, pp. 646-647.
76. Parallels: Negishi Equine Museum, Yokohama, Accession number 310015 (1988, p. 30); Hosokawa coll. catalog number 261, Hosokawa, M., 1988, pp. 272-274.
77. Sasama, 1982, p. 8; Hōsa Bunko, 1987, Vol. 6, pp. 26-27 and 54-55; Aichiken Bunka Kyōkai, 1986, pp. 136-137.
78. Parallel: Atsuta Shrine coll. (Nagoya), 1983, p. 15.
79. Negishi Equine Museum, 1989, pp. 10-12.
80. Parallel: Negishi Equine Museum, 1988, Cat. #80, p. 34.
81. Parallel: Yasukuni Shrine coll., in Negishi Equine Museum, 1983, cat. #59, p. 26.

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