Second Request for Individually Attested Pattern for Jófríðr Mánsdóttir’s Device

Jófríðr Mánsdóttir is a persona of a 12th century Icelandic woman. This document presents a case for an individually attested pattern for: “azure an Icelandic horse argent in amble proper” for this persona. Topics examined are discussion of footfall in tölt or amble; genetic basis of ambling; other animals that pace in heraldry, non-standard blazons of horses from 1200 to 1600, heraldry in Iceland, ambling horses on medieval seals and coins, toltting horses in Icelandic/Nordic art and textiles during 1000 to 1400. Note for the purpose of this document amble and tolt are used interchangeably.

Footfall in Tölt or Amble

The Icelandic horse is unique in having up to five gaits: walk, trot, canter, tölt, and flying pace or flugskeið. When an Icelandic horse speeds up from the walk, it can choose to either tölt or trot; each horse usually has preference as to whether they prefer to go into tölt or trot. Almost all other gaited breeds such as the Paso Fino, Tennessee Walker, Peruvian Paso, Kentucky Mountain Horse, and Rocky Mountain horses either cannot trot or are strongly discouraged by the rider from trotting.

Flugskeið is a two-beat lateral gait with a moment of suspension between footfalls. The footfall pattern is left hind and left front hitting the ground; moment of suspension, right hind and right front hitting the ground. (Although in reality with a high speed camera, flying pace is four-beat with seven stages of movement. Flying pace can be up to 30 miles an hour in pace races. Check out the following link to see the speed and footfall of this gait (it is nothing like a walk).

http://www.youtube.com/watch?v=PxuQrdi0R8k
Some sources have speculated that flying pace may have been the inspiration for the eight-legged horse Sleipnir ridden by Odin. Certainly those short Icelandic legs move so fast that they are a blur. I am only aware of one artistic representation a Chinese sculpture of horse from the 300s AD that tries to depict a flying pace.

Walk is a four-beat lateral gait with two to three hooves on the ground and no moment of suspension with eight phases of movement. In comparison, tölt is a four-beat lateral gait with one to two hooves on the ground at each phase of movement at lower speeds. In her study "Limb phasing Icelandic horses," Viktoria Östlund “found that Icelandic horses had a suspension phase in tölt at higher speed, i.e. when reaching 4.4 m/s. Only one of 23 horses did not show a suspension phase in fast tölt.” Icelandic horses should be able to perform a slow tölt and a fast tölt; fast tölt can be as fast as a canter. Note that the footfall sequence of a tölt is the same (Left hind, left front, right hind, right front) as a walk but the stages of movement are different as shown by the gait chart below.
The stallion Jarl frá Miðkrika is four-gaited. Check the following link to see all four gaits including fast tolt around the 1:50 minute mark. Once again, tolt is not a walk by either phase of footfall or speed.

http://www.youtube.com/watch?v=fNELjAoGgdE

Believe it or not, some instructors who specialize in the training of Icelandic horses make their students identify gait, phase of gait, and quality of gait by identifying photographs.

One Gene to Rule Them All

It may seem that I am quibbling about technicalities when I claim that tolt is not the same as walk because of the differences in phases. However, the horse must carry the gaited gene to tolt or amble which means most of the horses in the world cannot move their body into what is the classic tolt position shown in the sketch to the left.

In a study “Mutations in DMRT3 affect locomotion in horses and spinal circuit function in mice” released last year, L. Andersson, et al found that one gene controls the ability to perform the various ambling gaits such flying pace, tolt, running walk, rack, etc. “Locomotion in mammals relies on a central pattern-generating circuitry of spinal interneurons established during development that coordinates limb movement. These networks produce left–right alternation of limbs as well as coordinated activation of flexor and extensor muscles…a premature stop codon in the DMRT3 gene has a major effect on the pattern of locomotion in horses. The mutation is permissive for the ability to perform alternate gaits…”

Horses tested from breeds such as Thoroughbreds, Shetlands, Swedish Warmbloods, and Arabians don’t have this premature stop condon in the DMRT3 gene; they are homozygous CC and cannot perform lateral gaits such as rack, amble, tolt, running walk, etc. Tested horses from the gaited breeds Peruvian Pasos, Paso Finos, Missouri Fox Trotters, and Rocky Mountain horses are 100% homozygous AA. Note some gaited breeds such as the Kentucky Mountain horse are only 95% homozygous. Icelandic horses that are homozygous for this allele or AA can usually perform flying pace, tolt, walk, canter, and trot (actual ability may depend on conformation and/or non-penetrance of the gene). Icelandic horses that are AC can tolt, trot, canter, and walk but cannot perform flying pace. And Icelandic horses that are CC cannot tolt or perform flying pace.

The ability to tolt or amble, as opposed to walk can be determined from footprints alone. “When anthropologist Mary Leakey uncovered the tracks of three 3.5-million-year-old equids in East Africa, she found their footfalls to match those of a toltting Icelandic horse traveling at ten miles an hour.” (Brown, 2012)
Other Animals That Pace as Depicted in Heraldry

In their study “Cavemen Were Better at Depicting Quadruped Walking than Modern Artists: Erroneous Walking Illustrations in the Fine Arts from Prehistory to Today,” G. Horvath, et al examined a wide variety of art through the ages to determine how accurately artists depicted animals walking. Eadweard Muybridge in the 1880s was able to publish a series of photographs depicting the exact stages of a horse at a walk and other gaits. They examined over 1000 pieces of art from prehistoric to modern to determine the error rate before and after Muybridge’s scientific work. “The error rate of modern pre-Muybridgean quadruped walking illustrations was 83.5%, much more than the error rate of 73.3% of mere chance. It decreased to 57.9% after 1887, that is in the post-Muybridgean period. Most surprisingly, the prehistoric quadruped walking depictions had the lowest error rate of 46.2%. “ What is important to recognize from this study is that works of art, including heraldry, will frequently misrepresent the gaits and/or appearance of animals either due to artistic license, cultural traditions, or inability to see the gait without the benefit of high speed film. Before looking at examining the depiction of horses in heraldry, let’s examine how the depiction of certain other animals that pace or amble changed during the history of heraldry.

From a biomechanical standpoint, camels, elephants, okapis, giraffes, llamas, and alpacas all go into a form of pace (two-beat) or amble (four-beat) when speeding up from a walk. Using elephants as an example, their depiction in heraldry can show a more naturalistic outline and pose depending on the familiarity of the artist with the creature.

The von Helfenstein coat of arms (gules an elephant argent on a mount in base or) serves as a useful illustration. Note in some sources the elephant could be described as statant and in some as passant. In one depiction of this coat of arms, the elephant resembles a horse with a trunk with the legs in a very unnatural (for an elephant) position. From left to right and down, sources are 1) Wappenbuch von Hans Haggenberg ca 1466 2) Schwäb. Grafen-Wappen 3) Zurcher Wappenrolle ca. 1340, 4) Epitaph of Adelheid von Helfenstein, 1356:
Non-standard Blazons of Horses in Heraldry from 1300 to 1600

The first coat of arms for von Haimmenhouen from Scheibler’sches Wappenbuch, dates from about 1450. Although probably blazoned as (not sure), the position of the horse is definitely more en guardant. Note all other coats of arms in this wappenbuch that feature horses show them in the more traditional attitudes such as en passant, courant, statant, or forcéne.
The second example is the coat of arms from the city of Horsen, which is based on the earliest city seal dating from 1368. The horse is presented in an amble like attitude.

In an article entitled “Om Danske By-Og, A. Thiset discusses in Danish, the coat of arms for the city of Horsen. Depending on the source, the horse is depicted in subsequent coat of arms (modern) as either in a possible trot position (diagonal) or an amble (lateral).
The Cavalla coat of arms, from the Insignia ... XIV. Insignia Neapolitanorum, Genuensium - BSB Cod.icon. 279 ca Genoa, Italy, 1550s, shows another horse with the rear hind leg clearly lifted. Although probably described as passant, this represents another variation of lateral leg position—assuming the right hind is lifted from the ground—but not a realistic amble.

The family name Trotter is associated with a trotting horse. “The traditional account of this family is, that a brother of the Lord Giffard having got a message from King James III. [ruled from 1460 to 1488] to repair to his court without delay, he made such haste on a hard trotting horse, that he was with his Majesty much sooner than could have been expected upon which he had the sirname of Trotter assigned him; and for arms, argent, a horse trotting, sable; furnished, gules, on a mount in base, vert; and in chief, a star of the third” (Thorold, n.d.)—originally listed in Workman MS of 1567.

Various sources list other examples of trotting horse used in heraldry for individuals named Trotter but I did not find any actual blazons in the desired timeframe of pre-1650. I did find a later example (1800s) for William Trotter, esq. whose armorial crest bears “on a wreath of his liveries, a horse trotting proper” (Fox-Davies, 1904, p. 141) This is the only depiction that I found showing a horse trotting proper and although it may be correct in heraldry, it is not especially realistic if it is meant to be trot with suspension. The sketches below show the two phases of trot: upper one is support by diagonal legs, lower one diagonal movement with suspension.

In summary, a detailed search of many of the armories showed some variation in leg and hoof position in the passant position. However, I did find some Italian heraldry in the 1550s that suggest that heralds of the time recognized the difference between lateral and diagonal gaits.
Lateral Vs. Diagonal Movement

For those readers who aren’t familiar with horse gaits, here is an explanation of lateral vs diagonal. In a diagonal gait, the horse supports itself by using the legs on the opposite sides of the body. The only diagonal gait is the trot. In a lateral gait, the horse supports itself by using the legs on the same side of the body. Walk, tolt or amble, and flying pace are all examples of lateral gaits. Canter is a 3-beat gait and is neither strictly lateral or diagonal. This is why it is important to look at the horses depicted in heraldry to see which legs are shown as being lifted. Is the artist trying to depict a lateral or diagonal gait or is it just artistic license?

The Insignia Neapolitanorum, Genuensium - BSB Cod.icon. ca Italy, 1550s shows several horses in motion. These examples can help highlight the differences between lateral and diagonal movement. Looking at both depictions of the horses for the De Angleria family, you can see that both of the right legs of the horses are lifted from the ground—so the horse is in a lateral gait or some type of amble. What is interesting about this is that riding an ambling horse makes perfect sense in falconry since the ride is very smooth—all the speed of the trot but no bounce. These devices are suggestive, but not conclusive that the artists drawing the devices recognized the difference between lateral and diagonal gaits.

The third picture is from another medieval book and also shows a horse in an ambling gait during falconry.
The S. Dominus coat of arms depicts a horse in a diagonal gait—perhaps the medieval version of a trot. Note a trot is bumpier than an amble but you get more pushing power from the hind end—more driving force suitable for using a spear or sword during war.

The De Armatis coat of arms depicts a horse at a walk—since 3 feet are on the ground. A trot has either 2 feet on the ground or a moment of suspension. During a tolt, the horse has 1 to 2 feet on the ground (or suspension during high speeds).

The De Comitibus coat of arms is illustrated with a horse courant or galloping (or the medieval version of galloping before the invention of high speed cameras.)

In conclusion, there is some evidence suggesting that medieval illustrators did recognize the difference between lateral and diagonal gaits and the purpose of each. Unfortunately, I could not find any blazons that used the words “amble” as opposed to passant or courant.

**Icelandic Heraldry**

One of the challenges of creating a coat of arms for an Icelandic persona is that heraldry was never commonplace in Icelandic. The original settlers of Iceland were not nobility but relations of minor nobility and wealthy families with their servants and slaves—either direct from Norway or from one of the northern British isles. Politically the island’s inhabitants were organized by
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declaring allegiance to goði or chieftains of the districts. Such positions were not hereditary but achieved through influence and alliances (Byock, 2001).

In 1218 King Hakon of Norway granted Snorri Sturluson the title of ledr maðr or landed man, equivalent to a baron. In 1258, the same king appointed Gizur Thorvaldson as Jarl of Iceland (Byock, 2001). From 1262 to 1380, Norwegian kings ruled Iceland. The Danish monarchy had sovereign power over Iceland from 1380 to 1944. (Byock, 2001) No more jarls were appointed in Iceland and virtually no nobility was created by the Norwegian or Danish kings. Approximately 20 to 30 Icelandic men were awarded the title of knights; such titles were usually not hereditary. Nobility was dissolved in Iceland in 1660.

The following summary is from the entry “Icelandic Heraldry” in Wikipedia. The writers of this summary were able to access sources that I could not without traveling several thousand miles:

- Kerber, Ottmar, Gießen und die Wetterau Deutsche Kunstverlag, 1964
- Wecken, F. revised Krauße, Johannes, Taschenbuch für Familiengeschichtsforschung Verlag Degener 1951.

Icelandic heraldry is part of the German-Nordic tradition. Therefore, the most frequently used colors are silver, blue, gold, red, black and green; purple and furs are not used.

There are few known examples of coats of arms from Iceland. The earliest known seal in Iceland, a signet ring with a raven on it, was that of Hrafn Sveinbjarnarsonin at the beginning of the 1200s. The Icelandic knights, Haukur Erlendsson (around 1300) and Loftur the rich Guttormsson (around 1400), each had a coat of arms with falcon on it. “Three extant letters from the 15th century granted noble arms to Icelanders: in 1450 Torfi Arason was granted the arms, Azure, a bear argent, with a demi-bear argent on the crest; in 1457 Björn Porleifsson was granted the arms, Azure, a bear argent, with a bear argent on the crest; in 1488 Eggert Eggertsson, a Norwegian whose descendants became Iceland's governors for a while, was granted the arms, Azure, a demi-unicorn argent, with a demi-unicorn argent on the crest.” The church at Bessastaðir contains a monument with four coats of arms: A seven-pointed star; Party per pale; A ladder of seven rungs bend-sinister-wise; Party per fesse. The country of Iceland has four known coat of arms: a red lion upon a upper field of gold with bars of silver and blue in the lower part; a crowned stockfish on a field of red, a white gyrfalcon on field of blue, and the current coat of arms with is the Icelandic flag surrounded by the guardians of Iceland.

Based on what is currently known of the historic practice of heraldry in Iceland, one can make a few observations. Most charges involve an extremely small selection of mostly animals observed in Iceland such as ravens, white bears (polar bears have occasionally floated onto the island from ice floes and were hunted down as soon as possible), and falcons. The tincture purple and furs were not used. Björnsson and Sveinsson (2006, p. 328) show a picture of the forepart of a horse used on the signet of Eggert Jonsson around 1650 so horses have also been used as personal identifiers in Iceland.
Ambling Horses on Medieval Seals and Coins

Seals were often used as a personal insignia before heraldry came into common usage. Later seals often incorporated the individual’s coat of arms on one side of the seal. A quick survey of the seals shown in the Catalog of Seals of the British Department of Manuscripts by W. de Gray Birch, indicates that horses are shown most frequently in four positions—what the author categorizes as galloping, walking, springing, and pacing. The horses that Birch describes as “pacing” are in a distinct and realistic ambling position.

To the left, is the seal of Jean I, Duke of Lothier and Brabant described as “The Duke in long flowing dress, head bare, holding on the L h. a falcon by the jesses. Horse pacing.” As depicted this horse is in a very correct ambling or tolting position.

This same catalog also lists pacing horses on multiple seals: seal of Wales for Queen Elizabeth I, King Ferdinand and Queen Isabella of Spain, etc. The seal of the town of Lohbartzydk in Flanders from 1286 AD shows St Martin riding a pacing horse to the left, etc..

Below is the great seal of King John showing a knight on a pacing (really ambling) horse. This seal was attached to the Magna Carta in 1215.
The Cavallo, showing an ambling horse on one side, is a coin issued by Frederico II D’ Aragona of Naples in the late 1500s.

What is so distinctive about these seals and coin is the accuracy of the depiction of the tolt or amble gait.

**Tolting Horses in Icelandic/Nordic Art from 800 AD to 1400 AD**

Icelandic and Norse woodcarvings, textiles, manuscripts, and church paints frequently feature horses exhibiting an ambling or tolting gait in a realistic manner. Below are just a few examples.

Here is a depiction of a Norse farmer riding off to war. This wood carving dates around 1200 AD and resides in the Gol Church in Norway. Note the horse exhibits a “tolt,” the typical ambling gait of the Icelandic horse. (Björnsson and Sveinsson, 2006, p. 16).
One of the more famous early Icelandic horse depictions is the Valþjófsstaður church door which dates from around 1200 AD. On the top part of the door, “the knight rides his horse in what seems a slow and nice tölt, the hawk sitting on the horse’s pole, and the lion following proudly” (Björnsson and Sveinsson, 2006, p. 327).

This modern recreation of a cloth weaving found in the Oseberg Viking ship, is dated around 834 AD. Discovered near Tønsberg, Norway, the ship is part of the burial of Queen Ása grandmother to Harold Fine Hair. The tapestry clearly shows horses tolting according to Björnsson and Sveinsson (2006, p. 14).
Although later than other examples shown, the Reykjabók manuscript was illustrated by Grimur Skúlason from 1560 to 1578. This illustration shows guests riding to a wedding in various gaits, including a tolt (Björnsson and Sveinsson, 2006, p. 79).

Although Norman, the Bayeux Tapestry dates from the “Viking” period. It illustrates the events leading up to the conquest of England by William, Duke of Normandy. This 230 foot long embroidered cloth was probably made in England in the 1070s. Among the 50 scenes of the cloth, several horses are depicted in a tolt. (Wikipedia, BayeuxTapestryScene08)

Created around 1700, the Knights Tapestry from Iceland copies an earlier design from the Middle Ages. “When you look closely, you can find horses in tolt showing handsome leg action” (Björnsson and Sveinsson, 2006, p. 329).
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The Kalkmalerier web site http://www.kalkmalerier.dk/ contains a data base of fresco scenes painted in Danish churches between 1050 to 1250 AD.

One of the categories listed is “animals” and horses are one of the most frequently encountered animals included in these frescoes. Over 200 images of horses (hest) are displayed in these frescoes. These horses are painted as standing, springing, or tolting. Three examples are shown: left upper tolt, left lower springing, and the third example shows that even death rides an ambling horse.

Conclusion

Jófríðr Mánasdóttir respectfully requests that the An Tir College of Heralds grant her an attested pattern for using “an Icelandic horse ambling proper” on her device. Iceland has an extremely limited usage of heraldy. Since the persona of Jófríðr pre-dates the practice of heraldry, it would be reasonable that she would use an artistic image that would be familiar to her from documents, tapestries, church carvings, and perhaps paintings (especially if she traveled to any of the other Nordic countries). As far as my research shows, horses during Jófríðr’s time period were shown in a limited number of positions: springing, standing, walking, and ambling. What is interesting is that the depictions of a tolting horse during this time frame on both seals and artwork is exceeding accurate—much more so than horses galloping and even walking. And certainly a tolting Icelandic-like horse is depicted fairly frequently on tapestry and carvings and church frescoes from the 1000 AD to 1200 AD. So if an Icelandic woman from that timeframe did have a personal device, certainly an Icelandic-like horse en tolt or amble would be a reasonable possibility for an emblem.

Many thanks for your consideration.

Submitted by Pamela Nolf  2/21/2013
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References:


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