

# Quivers & Quarrels

VOL 8, ISSUE 2  
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**Featuring:**  
Night Shoots  
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Shooting Off the Hand  
\*\*\*\*\*  
Peeling Feathers  
\*\*\*\*\*  
Annals of Archery  
\*\*\*\*\*  
**AND MORE!!!**







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# Letter from the Editor...



*Greetings dear Archery Community!*

*This issue of Quivers and Quarrels ushers us into a new era. After a long, post-plague, hiatus I was asked to return as Editor in Chief to try and bring our newsletter back from the brink of extinction.*

*It is my hope, that with the help of all of you, that I will do that request*

*justice. This is YOUR newsletter and I am merely it's caretaker. It will take all of us to make our newsletter successful and I want you to know that every submission gets equal consideration for inclusion. I will make every endeavor to work with each of you on your submissions to make them publication ready.*

*I ask you, the Archery Community, to dig deep into your creative coffers, and send me your stories, your DIY projects, your archery related art, poems, archery classes you've taught, archery history you're passionate about, documentation of quivers, arrow making, a memorial article for one of our fallen, anything related to the martial art we all hold so dear. I am always open to discuss ideas for a column or recurring theme for articles. I am on the hunt for anything that can enrich all of our archery experiences throughout our community.*

*I am here to serve you, and hope that I am able to be a worthy steward for this most important platform. My ears are open to suggestions, my heart is open to ideas. Today we move forward with a blank canvas.*



*Forever Yours In Service,  
THL Máirin Ó Nialláin,*



*Editor in Chief  
Quivers & Quarrels*







# Night Shoots



*By Master Robert the Grey*

Night shooting can be very fun and is a good test of skill. With very little or no light present, it makes aiming more difficult, especially for gap or point of aim shooters, as most of the normal reference points are not available. Night shoots can heighten your concentration and improve your form. Any lapses in either can cost you an arrow.

Over the years we have held many variations of night shoots, and I would like to detail some of the more successful ones. Master Spence held many of these, so I hope he will pardon me for including them here.

First, a note about targets, you do not have to be very detailed in making your targets. All you need is something that will stop an arrow. We have used multiple layers of cardboard, feed sacks stuffed with plastic, blue foam, ethafoam, Saunders mats, milk jugs, and straw bales. Usually, the target takes on the shape of some monster or creature. It all depends on your theme. An important thing to consider when setting up your range is to make sure the area behind the targets allows for easy retrieval of misses. I try to set up so that there is an upward slope behind the targets. Keep the distances reasonable. The idea is to have fun, not discourage archers.

Let's move on to the shoots. One simple shoot that is popular in my mundane club is using 3D targets. Each shooter is allowed to have an LED flashlight that they can illuminate the target with. By my way of thinking

this is just too much light. Of course they are mostly compound shooters, and can't see their sights at night very well, so darkness is a real challenge for them. I have noticed that the stick bow shooters tend to do very well at these shoots.

A variation of this shoot is to place Trail Brites (little thumb tack like things that are reflective) in the target, either as eyes or in the vitals. Then a light is slowly pointed at the target from an angle until you can see the glow of the trail brites. This is a little more challenging because most of the target is still dark. Another challenge is to place a candle at the base of the target to provide illumination. You could also put the candle at the shooting stake. I like this option very much. Candlelight is soft and flickering, so you must really concentrate on your shot. Torches have also been used for this type of shoot.

One shoot that Spence did at an event a "few" years back, involved stuffing plastic milk jugs with plastic bags. He then poured the chemical mix from a light stick into the jugs. He hung the jugs from trees in the woods on a very dark night. This gave an effect of glowing will-o-wisps in the dark. It was very difficult, but very fun.

At a Crown Tourney, held in the Shire of Port Oasis, I set up a night shoot that simulated an attack during the night. I used six shooting stations with a little green man



target at an unknown distance from the gate. For the gates I used torches. Each archer started from a seated position well back from the gates. At the command (help, we're under attack) the archer had to get up, grab their bow, move to the first gate, nock, draw and loose at the first target. Then they had to move to the next gate, so on and so forth. After all targets were engaged, they had to return to the starting position. They were timed from the command to start until they returned to the start position. A 5 second penalty was added to their time for any target not hit. The fastest resulting time was the winner. It was loads of fun for everyone who tried it. Originally, I had planned to have the archer start out lying on a cot with the bow and arrows on a nearby rack. I didn't have a cot available and some of the ladies had dresses that would have encumbered them, so I opted for the seated position.

One last night shoot that I want to describe is the one I did at Blackstone Raid. I made targets out of four layers of Coroplast (what political signs are made of) glued together and painted a light green color. I cut them

out in a rough ghost shape. Then I applied several coats (the more the better) of luminescent stencil paint available at Lowes or Home Depot. This paint is charged up by a light source and will glow for several minutes after the lights are turned out. Just like those stick on stars you can get for children's rooms. I added some reflective vinyl for eyes. I placed each target in the woods along a path that would be very dark. The shooting stakes were no more than 20 yards away. Most were less. When night came, I took a group through and before they came upon each target, I used a Black Light lantern (which seems to have the best wavelength) to "charge up" each target. All you could see was this glowing shape with hollow eyes. It was way cool, especially the second night after the fog came in.

So, the next time you want to add something different to an event, consider a night shoot. Let your imagination run and you may surprise yourself, just make sure that it is safe and that you have plenty of flashlights handy for retrieving arrows. Have fun and good shooting.



## The Adventures of Spooki...

By Master Thomas Spence Colby





# Shooting Off the Hand with Baron Snorri



It's no secret to anyone who knows me that I'm a little bit of a purist (some would say a snob – and maybe, sometimes, justly) about shooting period bows and arrows in the SCA. Not to completely get up on my soapbox about it here, because this is supposed to be about arrows, but I feel the need to justify why I'm writing this, so here it is: – **I feel that people doing archery in a medieval recreation society should be actually trying to do medieval archery. That's it.**

So, to practice what I preach, I only shoot “period” bows, and I only shoot “period” arrows.

Aside: I'm putting “period” in quotes because what I'm doing, and virtually everyone else shooting in the period divisions of the SCA are doing, isn't *really* shooting actual period equipment. The function and form is largely correct, but:

- ◆ We aren't at medieval draw weights. Most experienced SCA shooters are shooting between 40 and 50 pound draw weights at 28 inches. That's a half to a third, at best, of what a medieval archer pulled.
- ◆ We're almost all shooting bows made with modern glues and epoxies.
- ◆ Virtually every shooter of an Asiatic “horsebow” in the SCA is shooting a bow with fiberglass in it.
- ◆ Medieval arrows weren't made from perfect dowels.
- ◆ Most longbow shooters are shooting laminated bows, made from two to four layers of different woods (including bamboo).

....and so on and so forth.

Conveniently, the Society already defines what's a “period” bow and arrows, right here, on page 13: [https://www.sca.org/wp-content/uploads/2020/01/target\\_archery\\_rules.pdf](https://www.sca.org/wp-content/uploads/2020/01/target_archery_rules.pdf)

The broad strokes are that you need to be shooting *off your hand*, which means no cut-out rest in the riser (handle) of the bow – the arrow rests on your hand alone – and you need to be shooting arrows with self-nocks, that is, the nock of the arrow is cut into the shaft of the arrow, rather than being a glued-on commercially-made plastic nock. All SCA archers have to shoot wooden shafts with feather fletchings, at least, so there's that, right? That's all. That doesn't seem so hard, right?

And yet, the vast majority of archers in the SCA can't seem to get there: they are still shooting what's generally referred to as “traditional” archery equipment. In the before-time, pre-internet, it could be difficult to get a bow that met the period archery requirements. No one really made them outside of hobbyists, and the traditional archery scene in the USA is *huge*, so those types of bows *are* readily available – often at garage sales and secondhand shops for a near-pittance. But now that we have the internet, bows of a much more medieval form are available from a bunch of different places. Both horsebows and longbows that meet the SCA's definition of “period”, as I discussed above, can be had for around \$100, and a dozen appropriate arrows can be had for as little as \$40.



Now, certainly that's not "let's go try out archery" money for most people. For a beginner, telling them to fork out \$150 to try out archery would most likely kill their interest immediately. But I'm not trying to make the case that a beginning archer in the SCA should be shooting period gear - just like no one's telling a fledgling fighter that they should be buying a \$500 helmet before they can fight. But, just like with fighting, where when a fighter reaches a certain threshold of skill and time-in-grade, it's time for them to surrender the ancient bascinet from the loaner pile and start looking at something that fits their own head and persona, when archers reach a certain skill and dedication level, I feel like they *ought* to be looking to set down their Samick Sage or their 1978 Bear recurve, and start looking to move to a period longbow or horsebow.

Why they do not, I cannot wrap my head around. (If you have an idea why, *please* reach out and tell me!) My current working theory is, again, availability of equipment. Availability of bows is largely a moot point now that vendors such as AliBow, Flagella Dei, Ringing Rocks Archery, and many others are selling longbows and horsebows that meet the SCA's period requirements for very reasonable prices. However, availability of arrows may be an issue. Many, many archers in the SCA either make their own arrows, or personally know a person who is making their arrows for them, and if this is you, then you're my target audience for this next section.

**Now we get to the meat of this blog post: I'm going to show you (you being a lightly experienced fletcher, let's say, someone who has made at least a dozen sets of a dozen arrows - a gross) how to**

**make a simple, cheap, and plausibly period arrow from readily available, commercial components.**

There are really just four parts to an arrow: shaft, nock, point, and fletchings. Let's talk about how to make these plausibly period for each one.



### **The Shaft**

The vast, vast majority of SCAdian arrows are made of a wood called Port Orford cedar (POC), *Chamaecyparis lawsoniana*:

<https://www.wood-database.com/port-orford-cedar/>

This is a miracle wood for archery: it's light, has a very straight grain, and is reasonably strong for its weight. It's also from Port Orford, Oregon, USA. That makes it, to me, NOT a period wood for anyone doing a European, Asian, or African persona in the SCA's time period.

Fortunately, there are other options. While ash would be a wonderful option, ash arrow shafting is only available through certain vendors. We do have three other fine choices though: bamboo, German Spruce, and Larch (Tamarack). I've shot all three, and while none of them are the miracle wood POC is, they're all straight and shootable woods. German spruce is very light, almost as light as POC. Larch is a heavier wood, but extremely tough. Every archer has had

the experience of hitting something hard, like a stone or a metal fencepost holding a target, and having the point of their POC arrow snap off cleanly right at the tip. Larch just bounces off. Bamboo is light, cheap, and strong, but often needs straightening, and cutting self-nocks into hollow bamboo takes practice.

The shaft should not be striped, colored, painted, or otherwise tarted up. Avoid a super-shiny modern polyurethane coating. A simple wipe with boiled linseed oil, tung oil, or a similar natural wood finish works great. If those aren't available, you can use poly; try the wipe-on kind in a satin finish, and don't do more than two coats.

### The Nock

In traditional archery, the nocks of arrows are made of plastic and glued onto the wood shaft. They're cheap, clip onto the string nicely, and are perfectly consistent. They do absolutely provide a significant advantage over a medieval self-nock. But plastic nocks are definitely not period (although glue-on nocks ARE period; particularly in Turkish and middle-eastern archery both horn and wood nocks were fashioned separately from the shaft, and glued on. If you can find these - and there are some domestic distributors of them - by all means go nuts and use them). Most medieval arrows were of what we call the "self nock" variety, that is, the nock is cut directly into the shaft of the arrow. There are lots of ways to do this, and as bows got stronger and stronger, different types of reinforcements were necessary to prevent the power of the bow from instantly splitting the wood shaft upon release. Cord wraps and horn inserts were the

most common in European medieval archery.

However, as I said above, most SCAdians are only shooting a 40-50 pound bow. At those weights, not much actual reinforcement is needed. The important things are to make SURE you are sawing the nock against the grain of the arrow, and put a simple cord wrap just below the nock. When I say, "saw against the grain", I mean that if you look at the round ends of your arrow shafts, you will see parallel lines running across them. That's the grain. You want to saw *across* those lines, perpendicular to them. If you saw your nocks *parallel* to those grain lines, your arrows are going to split on release. I promise you, arrow go boom. It's quite scary and a bit dangerous. Best thing to do is, once you've located those grain lines, just use a pencil or a marker and draw a line across them, then saw the nock there.

You do have to actually saw in the nocks; usually about 1/2" deep is how far to go. The best tool (non-motorized tool, that is) for doing this that I've found is three hacksaw blades taped together, with the middle blade's teeth facing the opposite direction from the two outside blades. You can tape one end of the blades, then tape from the middle all the way to the other end and use that part as a handle.

You have to hold the shaft while doing this; for this I recommend a table vise with padded jaws. Some scrap leather will pad them fine, or you can buy magnetic nylon jaw covers for your vise online that have a V on one side that holds round shafts wonderfully. It should only take a few pulls of the saw to make the nock once you've got the hang of it.



You can do a LOT of shaping and futzing about with your self nocks if you want to. Some people use a round file to make the canyon rounded to fit the string better, others use a belt sander or sanding blocks to round off the ends of the dowel. I like to taper them a bit roughly on my belt sander (a \$35 tool from Harbor Freight) then use a drywall sanding sponge to smooth them out.



For the wrap, you want it right below the bottom of the nock. You can use artificial sinew or thick nylon thread from a leatherworking shop, silk thread for a later period look, or (what I use) some very thin linen string I bought a big spool of.

You only need to do about 3/8" of a wrap, then tie it off. I like to cheat here a bit with some modern materials, and use a very thin superglue to coat my wrap, and let a little of it sink into my nock as well. This makes it immeasurably stronger with little effort, and it's almost invisible.

### The Fletchings

The default feather for fletching arrows, worldwide, is now the turkey feather. It's much like Port Orford cedar for arrow shafts; they're miracle feathers for arrows. They're large, long, robust, easily dyed, and readily available as a byproduct of the poultry industry.

I looked long and hard, far and wide, for an alternative to turkey feathers for fletchings, because the turkey, being a New World bird, is totally inappropriate for a "period" arrow.

You simply can't do it. Not if you're looking, as I am, for a readily available commercial source. Let's go over what I tried:

- ♦ Domestic chickens and ducks have been bred for hundreds of years to have smaller flight pinions. No good.
- ♦ Raptor feathers, those of eagles, hawks, etc. are all prohibited from ownership, and all raptors are protected species. These feathers are made of unobtainium unless you are a member of a First Nation - and they're not fletching arrows with

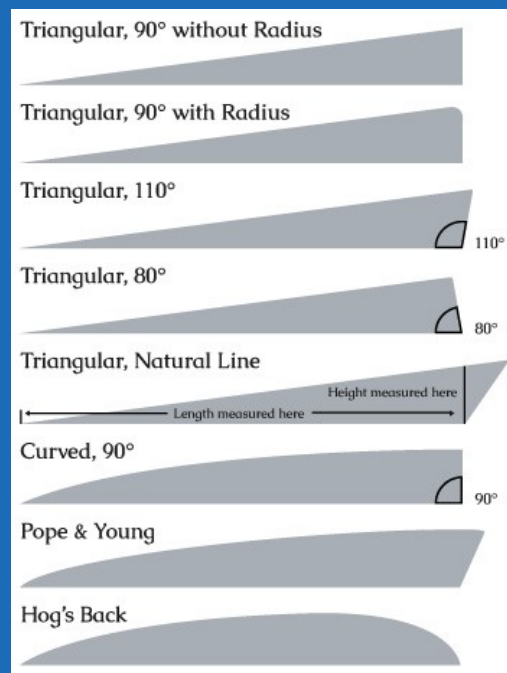


them, they're sacred objects used for ceremonial purposes.

- ◆ Seagulls are a protected migratory bird (yes, really) and you can't possess any part of those.
- ◆ Ditto for Canadian geese. Never mind that you can go find a field where a thousand Canadian geese rested overnight while flying North or South and glean dozens of suitable feathers from the ground, you can't possess those.
- ◆ Crows would work – but I'd have to hunt them myself. No one I found is selling crow feathers in any bulk. Besides, I *like* crows – I have a whole murder I feed peanuts to year-round in my backyard.

At that point I threw in the towel. It was turkey feathers or nothing. I had to live with it.

However, I could at least make them look more period. Pre-cut arrow fletchings these days come mostly in two shapes, “shield cut” and “parabolic”: The middle arrow is fletched with “parabolic” fletchings, the bottom with “shield cut” fletchings. The top arrow is a flu-flu, fletched for short range shooting – the big feathers create lots of drag – and not suitable for SCA target archery, so ignore it.



Neither of those is particularly medieval-looking. Most medieval fletchings are either cut straight down perpendicular to the shaft at the back, or have a trailing rear point. Fortunately, there's a type of feather shape from the early days of traditional archery that, while also not readily available, at least it's popular enough that you can buy templates to cut your own. It's called Pope & Young (after two famous traditional archers): Most European medieval arrows end up being one of the triangular shapes above, while Asiatic arrows tend to be fletched with a more rounded profile, more like the “Hog's Back” fletching shown above. I find the Pope & Young shape to be a nice midpoint between the two: it has a bit of a curve on the long side, but retains the trailing rear point that's so common. That said, I have also fletched period arrows in the 90 degree triangular shape and the “natural line” shape. They all work fine. At the ranges and skill levels most SCA archers are shooting at, we won't see a real difference between any of the above shapes.



But, we were talking about commercially -available stuff. None of the above shapes are. Commercially available, I mean. Fear not, it's pretty easy to cut your own, and actually cheaper as well.

Here's what you need, in addition to a bag of full-length turkey fletchings:

1. Template
2. Rotary cutter
3. Squeeze clamp
4. Cutting board
5. Utility knife



You clamp the template over the feather, keeping the quill in the cut-out channel on the backside, clip off the back of the quill with the utility knife, then use the rotary cutter to cut the shape.



Take off your clamp, lift up your template, and you have a fletching. Do that 35 more times and you can fletch a dozen arrows.



When fletching, I use the same modern glues and materials I use when making traditional arrows (a lengthy pictorial primer on how I do that can be found here: <https://imgur.com/gallery/gbLql> ).

Again, looking for readily available. Using fish or hide glue here, and tying on the fletchings all the way down, is like a modern seamstress hand-sewing interior seams on a period garment. No one's going to know but her, so why do it?

**A final note on colors:** medieval folks didn't have blue, or yellow, or purple, or red, or green feathers. They had the colors that come on birds: white, black, brown, and gray. Please try and stick to those. Also please avoid the "barred" feathers. Not only do they cost more (because the barring is artificial) they're meant to look like turkey feathers, and the turkey's the bird we're trying to pretend we're NOT using the feathers of here. I know the temptation for SCAdians to try and bling up ALL THE THINGS is nearly irresistible, and fletching your arrows with the colors of your arms, household, or kingdom seems like a great idea... but it's wrong.

### The Point

Not much to say here. Almost any medieval point you can think of will be disallowed at an SCA archery range (and most club ranges, too) for doing too much damage to the target butts. Personally, for me, I think the standard field point is just fine for SCA use at any event.

However, if you want to go the extra mile, there are a number of modified bodkin points, or "modkins" commercially available.

Personally, I use the TopHat screw-on modkins. They're universally acceptable because the largest diameter of the point is no larger than the shaft of the arrow, there's just a small hip on them for aesthetics.

As you can see here, the shaft is not tapered, as with a glue-on tip, the shaft itself is threaded with a special thread-cutting die in a tool from TopHat, and the points are screwed on. It's a wonderful system and I recommend it.



Another very medieval-looking option is conical pin points:





## NOTE FROM THE EDITORS:

Just a quick note about our content. There are as many opinions of archery topics as there are people who shoot bows. Some of us are die hard purists, while others are occasional hobbyists.

It is the intent of this newsletter to give everyone in our archery community a voice and a platform to share their ideas and opinions about what archery means to them, and what their preferred ways of doing things are.

Each archer's personal experiences vary widely, even among those practicing the same types of archery in our society, as do their abilities. We look to inspire and nurture archers from every level, from a beginner holding a bow for the very first time, to the most Elite Grand Master, and beyond.

I would also like to point out that we wish everyone to be respectful of each other, we do not all have to agree on a topic, but want to encourage civil discourse among our community members about where they found or learned their historical information and who or where they were taught how to do different things such as make strings, make arrows, historical materials, historical equipment from around the Known World, etc.

Thank you for your continued support.

The Editorial Staff - Quivers & Quarrels

These are also made by TopHat and are screw-on points, but similar glue-on options are available.

So just install whatever points you like, and you have yourself a "plausibly period" arrow, as I have taken to calling them.

And that's plausibly period arrows. I've been shooting these arrows ONLY, made from larch or German spruce, since the beginning of 2018. I am a Master Bowman with period equipment in both the recurve and crossbow categories, and I'm knocking at the door with longbow (currently shooting mid-70's with period longbow, but ran out of daylight for practices this year). If I can do it, you can do it.

Would I probably put up higher scores shooting off the rest of a traditional recurve bow, with plastic nocks, and perfect factory-cut fletchings? Almost certainly. But I'd also put up better scores shooting an Olympic recurve, carbon fiber arrows, or a compound bow. Did you just recoil in horror at the idea of that?

Then why are you still shooting trad equipment?

**-Snorri**



Photo Credit: THL Forester Erik Gralókr



# Annals of Archery

With

## Lord Alfonso de Santo Domingo



### *Shooting Thru History: The Arabs and Archery*

Archery, a skill that originated in Africa around 70,000 years ago, has grown into a global sport. Whether used for hunting, self-defense, or entertainment, the bow and arrow have been essential tools for civilizations across the world - from South Africa in the south to Denmark in the north, and from Sri Lanka in the east to the Oceti Sakowin tribes in the Western United States. Interestingly, the most recent archaeological discovery related to archery was made in 2020 when an arrowhead was found inside Sri Lanka's Fa Hien Cave. Now, why this brief history lesson? Archery is more than just a recreational activity; it's a bonding experience!

Over the past three years, during the Coronavirus Pandemic, life has presented significant challenges for many. While we've sadly lost dear friends during this time, our shared passion for archery has brought us closer together. It has reignited our interest in archery, from arrows and bows to general shooting, strengthening our friendships and helping me appreciate the archery community and the many friends I've made along the way. For some, it has offered a chance to explore the rich history of ar-

chery and the role of the bow and arrow in different civilizations.

From The New York Public Library. (1910). *Moros Alfaraces...* ([Año] 1410) Retrieved from: <https://digitalcollections.nypl.org/items/510d47d9-8046-a3d9-e040-e00a18064a99>







Jabal Ikma, ancient Arabian rock art and inscription site; 1st millennium BCE; al-Ula, Saudi Arabia (23)" by Prof. Mortel is licensed under CC BY 2.0.

In this series, "Annals of Archery," we will delve into that history, paying close attention to how archery has benefited various people and civilizations. Let's start this series with a closer look at the Arabian Empire.

To understand the history of Arabian archery, particularly before the Muslim conquests of the 7th Century, we need to go back in time. Evidence suggests that human habitation in the Arabian Peninsula dates back approximately 125,000 years. A 2011 study indicates that the first modern humans to migrate to East Asia left Africa about 75,000 years ago, crossing the strait connecting Yemen on the Arabian Peninsula with the Horn of Africa.

During the Neolithic period, various cultures thrived in the Arabian Peninsula, such as the El Magar culture in modern-day Southwestern Syria. This culture witnessed the widespread domestication of animals and left behind rock engravings dating back 8,000 years, some of the earliest depictions of bows in the Arabian Peninsula. These engravings reveal bows with curved handles and tips, suggesting their use in hunting. There's also an intriguing depiction of a chariot with an archer on the right, though it remains abstract and open to interpretation.

The Assyrian era, from 645 to 635 BCE, provides further insights into Arabian archery. Assyrian forces actively pursued Arab raiders during the reign of Ashurbanipal, the king of Assyria. Artifacts from this period show bows with curved tips but lacking the curve at the handle.



Stone wall panel; relief; the king has grabbed a spear from an attendant and drives it into wounded lion that is biting the wheel of the chariot; one attendant holds the royal bow, while another holds spear ready. © The Trustees of the British Museum. (CC BY-NC-SA 4.0)

Syrian units were also crucial in conquering parts of Arabia, with a notable 1,000-strong camel unit known as the dromedary mentioned in Dora-Europos. These camel units combined bows with melee weapons, reflecting the tactics of their ancient ancestors.

In the north of Arabia, evidence suggests that the Roman army used some Nabataean bows. The Romans extended their influence into northwestern Arabia and the Levant, with Hegra in northwestern Arabia featuring during Roman occupation. Greek sources also mention Arab archers like Hieronymos of Cardia.

In southern Arabia, there's limited information regarding archery equipment and techniques. However, surviving arrowheads resemble designs seen in Western arrowheads, indicating common trade in the region.

Now, let's consider the life of Prophet Muhammad, born in 570 AD. Apart from founding a new religion, Islam, and uniting the Arab tribes under a new caliphate, he was also skilled with a bow. Muhammad, who led numerous caravans along the Silk Road during its early days, recognized the benefits of archery not only in combat but also as a sport. One of the most sacred relics associated with Muhammad, displayed at the Topkapi Museum in Istanbul, is his recurve bow made of bamboo. Additionally, historical accounts attribute multiple instances where Muhammad wielded the

bow in warfare and led troops into neighboring towns like Hadith for practice. The Quran even records Muhammad stating that archery held a special place in his heart, more cherished than horse riding.

Unlike the Mongolians, who famously combined horses with archery, the Arabs primarily relied on camels. The rationale behind this preference was that camels were taller and better adapted to desert conditions. Interestingly, Arab archers typically dismounted from their camels, placed their quivers on the ground, took a knee, and then unleashed a volley of arrows at their target.

Arab archers continue to impress, having established an Archery Federation that hosts numerous competitions culminating in the Pan Arab Games, where archers from nine countries vie for top honors.

In our next installment, we will delve into the fascinating world of Mongolian archery.



'Illustrated Account of the Mongol Invasion of Japan.'  
Commissioned by Takezaki Suenaga, the painted scroll was produced in 1293 CE.. Photo is Public Domain





# Turkey Feather Peeling for Fletching

## By TTH Forester Eirik Gnalókkur



“God sendeth us good feathers, but the devil naughty fletchers”—Ascham

Roger Ascham, in the first English-language archery book *Toxophilus* (1545) offered a number of tips to help archers learn how to select good archery equipment, or as he put it, “some tokens to know a bow and a shaft, which pertaineth to an archer to come to good shooting”. He speaks a bit about feathers, suggesting among other ideas that a black or grey feather should be used for the cock feather (the one that points away from the bow when a 3-fletch arrow is nocked). He describes the manufacturing process as one in which the fletcher cuts the fletching (the *vane*) off the feather’s central shaft (the quill or *rachis*) with his knife, then pares down the base of the remaining rachis with the knife to make it stand straight and evenly along the shaft.

In my experience this approach works, but it requires an extremely sharp blade such as a razor knife to cut the surprisingly tough quill, and it’s far too easy to accidentally destroy a feather when a cut goes astray. I find I have a bit more control over the cut using a good pair of scissors (this requires fabric-cutting sharpness, as with sewing scissors). One then sands or grinds down the base of the rachis to make it sit evenly on the arrow shaft, which is also labor-intensive. Fortunately, there is a slightly easier way to prepare feathers for fletching, which involves peeling the vein off the quill’s shaft by hand. But first, here is a bit more about feathers.

### **A Bit About Feathers**

Ascham perceived goose feathers as best, and because of the oils they contain for swimming,

which also contribute to their durability in humid or damp weather, they probably are still a top choice; but geese are not as widely available now as they were in England at that time, so goose feathers today can be harder to come by. Commercially available feathers for fletching now are typically turkey feathers, machine worked to a consistent size and shape and often dyed in bright colors. The turkey is native to the U.S. and Mexico and was introduced to England as early as 1526; though I have not seen turkey feathers documented in English sources in SCA period, they were widely used for this purpose by Native American groups throughout history. English sources suggest that in period any large, stiff feather would have been considered suitable for fletching, and feathers of peafowl and swan are mentioned by Ascham, though he considered them inferior to goose feathers.

Because of their availability, I usually use turkey feathers. Feathers are made of keratin, so (like our hair and nails) are not alive. Turkeys naturally molt and regrow their feathers around once each year, over a four to ten-week period. The predominant variety grown today is the domesticated Thanksgiving turkey, which has white feathers, but other varieties are more varied in color and pattern. Our holiday turkeys typically are harvested at such a young age that their feathers have not had time to mature to the larger size and greater durability of those on older birds, which are better for fletching purposes. For brown/black feathers, the wild turkey is one ideal source; single feathers can be found occasionally in the woods where they



have fallen during the wild bird's natural molting process, or if you know (or are) a turkey hunter, access to a whole wing of feathers is even better. If you have both wings, it is easy to see firsthand how left-wing and right-wing feathers differ!

Another great source for feathers in natural white or brown barred patterns is the various breeds of heirloom turkey, such as the Bronze. The feathers best suited to fletching are the primary wing feathers, these being the largest and most durable on the bird. I have had good luck asking vendors at the farmer's market, where I found a farmer whose kids were happy to collect a shoe box full of molted heirloom-breed turkey feathers for me from their turkey yard for just a few dollars. Though these particular feathers needed only a quick wipe down with a damp cloth to remove surface dust, I've read that feathers can be laundered, by running them through the washer on the delicate cycle inside a pillowcase, if a heavier cleaning is needed.

Full-length feathers also can be purchased from archery suppliers such as 3 Rivers, in either natural (white) or dyed versions. Because feathers are difficult to dye, and because many of today's bright dye colors were not available prior to their synthesis in the late 19<sup>th</sup> century, I prefer white or naturally colored feathers, though the natural colors can make it harder to find arrows lost in grass or leaf litter. Barred patterns colored to mimic natural feathers are also commercially available.

### **Peeling Feathers**

Once the feathers are in hand, you can proceed with preparing them to put on the arrow. I find peeling is far easier than cutting and grinding. To peel a feather for fletching, grasp the two sides of the central vane at or near the small notch in the tip, holding the rachis in the same thumb and finger as the vanes on the side you

don't want to peel, and then tug sharply away on the side you want to peel off to use on the arrow. It should begin to come off the rachis for a centimeter or two (see photo 1).



**Photo 1:** Domestic turkey feather starting to be peeled

Then, simply repeat the process, moving down toward the quill end until the entire side is peeled. When done correctly, the vane will come off in one piece that is anchored together by a piece of the surface layer of the rachis or quill that came off with it (see photos 2 & 3).



**Photo 2:** Partial length fletching peeled off the quill



**Photo 3:** Closer view of base of full length fletching showing the curved rachis





**Photo 4:** Spliced fletching using partial length fletches

The first few times, it probably will start to peel off to the side and break free before it is long enough for a full fletch, but these shorter lengths can be spliced together to make multi-color fletching (see the arrow in photo 4), a practice that may be depicted on the arrow in van der Weygen's *Portrait of Anthony of Burgundy* from circa 1460. The end near the tip of the feather will likely be too short and thin to use, while the downy barbs near the quill end are too fluffy, so it is the middle part of the vane that is most usable for fletching. Some exceptionally large feathers can yield two full-length fletches, but it's more likely to get once per feather, or one and a fraction of another, as in photo 2.

Some feathers will have 2 usable sides, but most only have one (photo 1), which is the left-wing or right-wing depending on which way it curves; the two sides of the bird of course are mirror images. I find even if a feather might seem to be symmetrical enough to have 2 usable sides, it's better to peel the more suitable side first, as the second side always seems harder to peel without it tearing. Both left-wing and right-wing fletches are usable, but they should not be mixed on the same arrow. I find it's easiest to stack the peeled fletches by left or right wing as I pull them off the quill, as this minimizes the chances of accidentally mixing them later.

One other note: some feathers may be too dried out to peel well, and these tend to tear off in pieces rather than peel cleanly. I have not found a way to tell the difference visually, so it's not until afterwards that I know whether a given feather did or did not peel well. In my last box around one out of every 20 feathers failed to peel well; I suspect this is because they had been out on the ground for different lengths of time before they were collected.

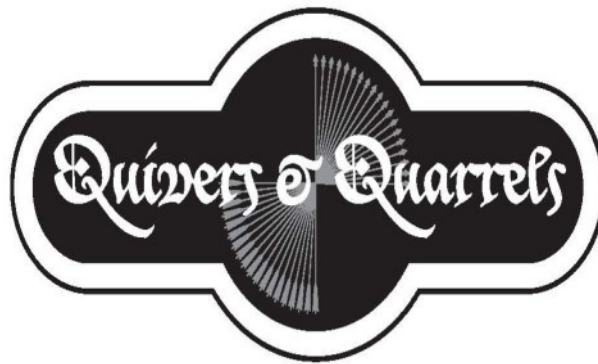
Once a pile of full-length fletches is ready, they can be sorted by size, color, pattern, and stiffness, and trimmed to length as desired. Attaching fletches to the arrow shaft can be done in the same ways that one would apply commercial fletching. There are different ways to shape the profile of the fletching, including with a feather chopping die, feather burner, or sharp scissors (with scissors or a burner, I find it is more consistent to trim to the final size and shape after they are attached to the arrow). When trimming with scissors, beginning from the nock end gives a better result.

One particularly nice feature of this peeling method is that the rachis at the base of the peeled vane has a naturally curved cross section that both fits well on the curvature of the arrow shaft, and that provides a surface onto which it is easy to apply glue (see photo 3). As a side benefit, the quills that are left over can be shared with local scribes to be turned into quill pens.

## *Happy fletching!*

### References

- Ascham, R. (1545). *Toxophilus: The school of shooting contained in two books*. Available: <https://www.archerylibrary.com/books/toxophilus/>
- van der Weygen, R. (ca. 1460). *Portrait of Anthony of Burgundy* [painting]. Collection of the Royal Museums of Fine Arts of Belgium. Available: [https://commons.wikimedia.org/wiki/ogier\\_van\\_der\\_Weyden\\_-\\_rtrait\\_of\\_Antony\\_of\\_Burgundy\\_-\\_WGA25710.jpg](https://commons.wikimedia.org/wiki/ogier_van_der_Weyden_-_rtrait_of_Antony_of_Burgundy_-_WGA25710.jpg)



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- Photographs and illustrations must be submitted separately as .jpg, .jpeg, .bmp, or .tiff, though they may also be included within the text of the article to indicate placement. Photographs and illustrations of a usable file size and resolution generally cannot be extracted from .doc, .docx, or .pdf files, so the original, full-size files are recommended.
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