

DRAGON

THE VOICE OF THE COMPANIE OF SAYNT GEORGE



Illustration: © John Howe 2002

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EDITORIAL

Dragon is proud to present the first issue since 2003. It contains a selection of articles which have all previously been published on the old Company of Saynt George blog between 2010-2015. When we launched the new Company of Saynt George website earlier this year, the blog along with the old website had already disappeared, and thus also a lot of important knowledge and thoughts made over the last many years by our members.

The goal was to secure some of this old content and make it available to the public again. Gentle editing of the original text has been made here and there and new and supplementary illustrations

have been added where necessary. We have chosen to keep the old layout for the sake of nostalgia.

Thanks to Christian Folini, Andrea Carloni, Denis Louchart and Paul Denney for giving permission to republish their articles. A special thank you to our veteran member John Howe for contributing with the cover illustration that makes this issue of Dragon something very special.

Pour le Duc

Lars Meldgaard Sass Jensen

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Photo: Diana Goodwin 2015.

THE URSULA SHRINE LINNEN ARMOUR

By Christian Folini, Veteran Company member

The Saint Ursula Shrine, painted by Hans Memling before 1489, is one of the best known works of the Flemish art of the 15th century. This liturgical shrine is not very big. In fact, the painted panels are only 35cm high. The paintings depict the martyrdom of St. Ursula and the eleven thousand virgins in Cologne and feature a wide selection of arms and armour. Among them are two pieces of thick linnen armour, both worn over mail.

We will call these items padded jack for the remainder of this article, even if this term comes with a lot of problems. The right one of the two figures wearing a jack also wears metal reinforcements on the outer arms. These are known as jack chains among reenactors. Let us look at this figure a bit more. Given the panel is 35cm high, the figure itself stands at 14cm; the armour about 5cm high. The amount of detail that went into this figure is very impressive. What do we see exactly?

We see a padded jack with attached or semi-attached arms. We look at it from the back. The torso is very tight around the waist. It looks as if the various layers of cloth would be held together by knots, likely running through all layers. These knots are arranged in a regular fashion, forming lines of knots and resulting in a grid-like look. If we count the vertical lines from the left armpit to center of the back, we get five vertical lines of knots, with one line running down from the armpit, one line hitting the outer edge of the armpit, then two lines running down from the shoulder and a central line in the center of the back. We can assume that the right side of the back has the same number of vertical lines, but the right armpit is not visible.

The upper rim around the neckline seems to be enforced by an additional piece of cloth covering the edges of the various layers underneath. The neckline is running fairly low giving view to the



Three of the side panels of the Ursula shrine by Hans Memling. (Source: Wikimedia Commons)



The 2nd figure wearing a linnen armour from the Ursula Shrine. (Source: Wikimedia Commons)

mail worn underneath. The top horizontal fold hits the neckline in the center. To the left of the neckline there is only one knot visible. The top knot expected on the outer vertical line hitting the shoulder is not visible. It is most likely covered by a strap indicated in the painting. The central knot of this topmost horizontal line is missing as it would lie above the neckline. There are nine horizontal lines visible. The third one from below is around the tight waist. The line closest to the lower edge is visible, but you can not see the knots. It is unclear whether there are not any knots visible or they are really missing. The knots forming the lines squeeze the cloth quite a bit. This is especially true below the waist, where the garment gets a fluffy look near the lower rim. It is therefore most likely, that the knots disappear in the folds of the cloth. Around the lower edge of the cloth, the cloth has a greyish colour. Probably two fingers wide. I do not have a good explanation for this. Another detail is surprising: If you look at the left leg, you can see, that the linnen armour looks quite thin on the leg. The fluffy cloth is also pressed

by the belt of the sword. Also surprisingly, the belt itself does not stand up on the cloth. It looks very flat indeed.

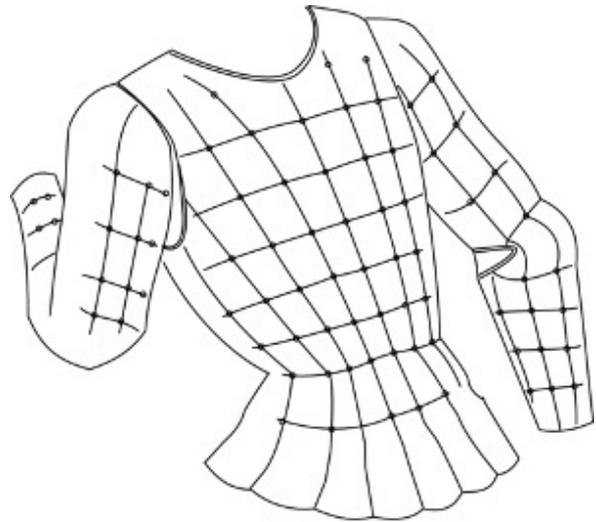
The arms of the padded armour are either attached via straps, or their upper shoulder part is sewn to the torso. This is not quite clear. It is clear however, that the armpit is open and that the clothing arms do not connect with the torso around the armpit. Again, the torso's seam around the armpit is enforced by an additional piece of cloth. The arms themselves are also covered with the knots we saw on the torso. On the left arm, a pair of so-called jack chains is visible. It covers much of the knot structure. On the right arm, we hardly see the chains, but the inner part of the arm is well visible instead. It seems that the vertical lines on the outer side of the arm (visible on the left arm) are a bit tighter than the inner vertical lines visible on the right arm. Maybe it is something like eight or even nine vertical lines of knots running



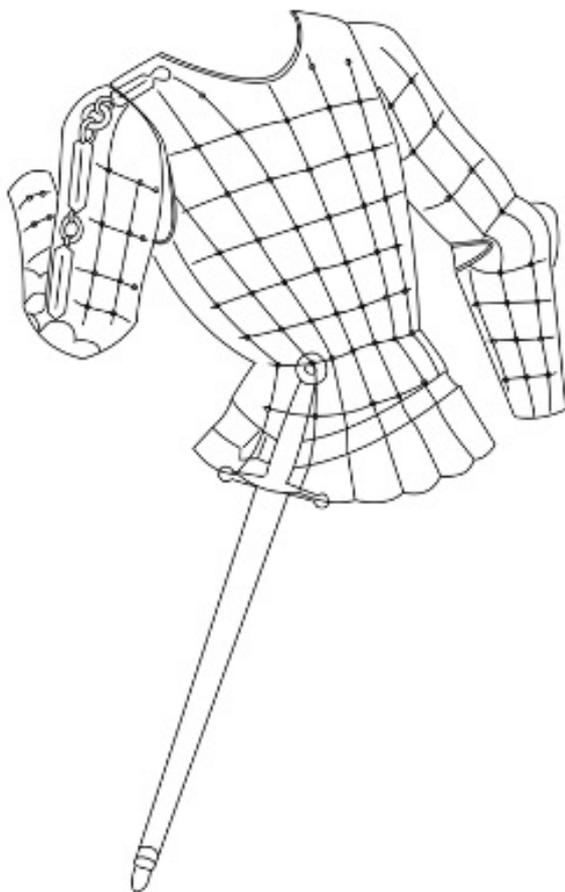
The visible structures emphasized (Source: Wikimedia Commons and scheme by Christian Folini 2013)

around the arm. Five or six of them facing outside. There are ten horizontal folds running around the arm. Five of them around the upper arm, five around the lower arm. Two lines mark the elbow, one running above, one running below the elbow. The topmost line of knots is sitting right on the upper rim of the arm or very close to the edge, as visible on the left shoulder. The shoulder itself is quite round. The inner edge of the cloth forming the arm lies close to the torso, thus giving optimal freedom of move for the shoulder joint. In fact, this is very close to the cut of a period doublet.

The right elbow also has a round, almost ball-shaped form. On the inner side of the elbow, we can see that there is a gap or hole in the inner side



The visible parts of the linnen armour emphasized (Scheme: Christian Folini 2013)



The visible structures emphasized without the painting (Scheme: Christian Folini 2013)

of the elbow. There is an enforced piece of cloth running around this hole. Another thing strikes the eye: Inside the hole we do not see the chainmail, we might expect as there is a chainmail running lower than the cloth armour on the hips and supposedly the same piece of mail being visible around the neck. Here, inside the right elbow, we do not see a piece of mail. I see three possible explanations:

- There is no chainmail and the cloth we can see inside the hole is a shirt.
- The hole is in fact not really a hole but simply a part of the clothing with fewer layers and a brim. The chainmail is thus covered by some layers of cloth, but probably less layers than the rest.
- There is supposed to be a chainmail, but the painter forgot it.

The lower arm might give us a hint: Around the ankle, the cloth armour is very tight. So tight in fact, that it looks very unlikely that there would be room for a chainmail. Still, which explanation holds true, I can not tell.

This article was first published in January 2013 on the Company of Saynt George Blog.

PANDOLFO III MALATESTA'S FUNERAL DOUBLET

By Andrea Carloni, Recruit Company member

The doublet was discovered in 1995, during the exploration of Pandolfo III Malatesta's (1370-1427) sarcophagus, situated in St. Francis Church in Fano (PU).

It soon became a matter of fact that the burial place had been violated and spoiled in ancient times, as it showed deprived of many garments and possibly precious objects; Malatesta's mummy lied in it, wrapped up in a shroud and wearing only the doublet, by all means the most important item of textile of the whole finding.

The conservative treatment of Pandolfo III's doublet, performed in 1999 and 2000, is the result of an intensive teamwork established in co-

operation with Dr. Rosaria Vallazzi ("Department of Historical and Artistic Heritage of Marche Region", Urbino) and some technicians working for "Arakhne Lab", directed by Claudia Kusch.

Fatally messed up during divestment as all its seams were removed, the doublet reached the lab split in six parts: two front portions, two rear ones and a pair of sleeves.

It has large and bulging sleeves at shoulder level, which are tight-fitting at wrists, the latter fastened up by ten little wooden buttons covered with crimson velvet; the buttons are just alike the ones on the right edge of the front fastening.



Pandolfo III Malatesta's funeral doublet on exhibition in the Civic Museum of Fano (PU, Marche, Italy), located in the Malatestian Palace (Photo: Andrea Carloni 2011)



The front part of Pandolfo III Malatesta's funeral doublet (Photo: Paola Fabbri 2005)

The padding of the doublet, composed of waste animal and vegetable fibers (i.e. silk, wool, hemp, linen and cotton) is retained between two linen cloths; sleeves, neck and fold are embellished by a very close decorative stitching.

The doublet is defective in some parts: its right sleeve is lacking for the vambrace, the left one has

got a cut off wristband, while some portions of the front are missing. On the other hand, the rear parts are in desperate conditions: the right quarter is fragmentary, its collar is detached and velvet is liquid-soaked, faded and warped; the left quarter, which had been discovered folded in two, is rather the same than the right one, apart from the collar, that is just partially detached in this case.



The rear part of Pandolfo III Malatesta's funeral doublet (Photo: Paola Fabbri 2005)

Here follow the most significant details.

FRONT PART

Front is larger than rear and has got its central portion shaped round the neck and the abdomen, such as the side under the armpits, while hips are straight from the waist down.

Just at the armhole terminal points, you can find gussets which are few centimeters large, all the way down to the waistline. The breast is very narrow with a very deep and wide sleeve hole.

The collar is slightly funnel-shaped, rather tight and strengthened by stitchings.



The left sleeve of Pandolfo III Malatesta's funeral doublet (Photo: Paola Fabbri 2005)

Buttons are placed just along the edge of the right panel, corresponding to eyelets on the left one, located at 1 cm from the edge.

REAR PART

It is cut far straighter than the front one, with a central seam, slightly shaped at the waistline. The portions beneath the armpits are just a bit larger than the hips; compared with sleeve holes (that is the back) they are very narrow. The portions beneath armpits are very deep, just the same as the front ones, and they form huge armholes.

SLEEVES

They are composed of two pieces: the upper and

larger part is gathered up just over the elbow, while the lower and narrow part is a sort of wristband encompassing the elbow.

The buttons are pinned on the lower side of the sewn waistband. The upper round portion is high, in order to encompass part of the arm and the shoulder.

The upper and lower sections of the sleeve were cut off a single cloth and joined by means of a rear seam. The overall profile of the sleeve shows a deep "cavity" matching with the front, while in the part matching with the rear the cloth is larger.



The padding of Pandolfo III Malatesta's funeral doublet (Photo: Paola Fabbri 2005)

FABRIC

The chemical surveys accomplished by Amsterdam Institute of Cultural Heritage have revealed that the red colour of the fabric is due to the presence of *Cocciniglia Armenia* and *Lacca*; the use of these dyes is actually odd for the age involved, as *Kermes* was usually preferred to *Cocciniglia Armenia*, while *Lacca* was a dye originally present in India or Persia, therefore scarcely available.

It was not possible to determine whether the fabrics were brought to Italy already dyed or they had been treated “in situ”.

The work made by assembling the velvet fragments found in the sarcophagus allowed to partially determine the ancient design: we are talking of a diapered velvet, made with woolen fibers, whose motif is called “a cammino”.

The outer fabric of the doublet is a silk long-hai-

red velvet, cut off to form a striped design.

The inner side is lined with row hemp. It seems that all parts have been singly made and round off and then put together to form the garment; the tailor used a backstitch and oversewn using a hemp thread, leaving a tiny inner hem.

The two side parts below the armpits show an exceeding hem of about 2,5 cm, probably meant for future extensions. The only fragment allowing to identify the specific kind of seam joining the parts is visible inside the front right shoulder.

PADDING AND STITCHING

The collar and the elbow part down to the wristband are stitched by means of close horizontal lines, while the upper side of the doublet and the sleeves are padded with cotton and silk.

All padded parts are quilted upon a “sunburst pattern”, so to keep padding in place.



Some buttons and the tight decorative stitching of Pandolfo III Malatesta's funeral doublet (Photo: Paola Fabbri 2005)

The whole doublet is padded using a row but thin linen thread.

Stitching was performed by a regular backstitch, using red or golden-yellow thread, keeping all layers in place. Cotton threads were inserted between a stitch and another, possibly to strengthen the wristband cloth.

BUTTONS AND EYELETS

As said above, buttons possibly conceal a wooden core. They are stitched on their top, sewed up with a cotton or hemp thread and pinned to the outer edge of the garment.

Eyelets were carefully eye-stitched and scallop-stitched and located at about 1 cm from the outer edge.

This article was first published in December 2010 on the Company of Saynt George Blog.

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TOWARDS A NEW BASE FOR HISTORICAL COOKING

By Christian Folini, Veteran Company member

In my experience, most reenactment cooks base their work on historical recipes. There is a great many of medieval manuscripts with recipes. But before one dives into those, it pays to take a look at a small book from the French "Typologie des Sources" series:

Lauriou, Bruno, ed. *Les Livres de Cuisine Médiévaux. Typologie des Sources du Moyen Âge Occidental, Fascicle 77*. Turnhout (Belgique) 1997, ISBN: 2-503-36000-9.

When you read through this excellent description of this class of sources you will understand, that collections of historical recipes are not an ideal base for good reenactment. The authors of manuscripts on cooking recipes were hardly cooks themselves. Very often, they were physicians interested in a good diet, nouveau riches attempting to show their wealth, or they are Maîtres d'Hôtel trying to make their lord look shiny through the documentation of the excellent dishes being served at his court. So these collections of historical recipes reproduce special, often high-class dishes for feasts or for the upper class. By no means is it a direct documentation of every day food in a military camp of an artillery company.

If we want the latter, we need different sources. We need sources speaking of the every day diet and documentation of this diet. Archaeological excavations come to mind: Latrines give a very clear idea of the basic elements of the food, the people ate. The latrines are less talkative when it comes to recipes, though. Administrative sources are very useful too. If a city documents the type

and the amount of food being sold on the retail market, then this is a direct proof of the consumption of these items within its wall or within its hinterland. For example, administrative sources tell us, that fresh-water fish were becoming more and more popular during our period.

Another interesting example for a great source is a treatise by German pediatric Bartholomäus Met-

Ein regiment der jungen kinder
Wie man sy halten vnd erziehen sol von
irer gepurt bis sy zu iren tagen kömen.



Bartholomäus Mettlinger from 1497, "Ein regiment der jungen kinder", part of folio 1r (scanned from a facsimile).

So aber nun wenig milch konte von verzernuß des leyb
es so dienet der obgeschriben rat dartzü von der subtilen vnd
flüssigen milch wegen. Auch es spricht anicenna das die prust
zü reybe sein mit zartem leinen tüchern besund vber drey stund
nach dem essen oder nüchter macht vil milch. Vnd von erzuei
die auß besunder eygenschafft vil milch machen seind vensch
elwurz. Tellen sam vnd ein eüter von geysen vnd schaffe die
milch geben haben Auch frisch buterschmalz in wein getrun
cken Enß eb schömen karuch in gerstenwasser gesotten sol ch
kost oder in tranck weyß gebrauchet machent vberflüssige mil
ich Vñ so ich in disen dingen mein schreyben ver lengert hab
so sey es niemand kein verdriß. wann alle gesuntheit des kin
des stat in dē. das die s āgam die obgeschribnētūgēt an ir hab
doch auff das minst den meren teyl mag es dir vberal gesen.

Bartholomäus Mettlinger from 1497, "Ein regiment der jungen kinder", part of folio 7r (scanned from a faksimile).

tlinger from 1497: "Ein regiment der jungen kin
der". It is available as a faksimile; I got my copy
via zvaab at a decent price.

Bartholomäus Mettlinger: Die jungen kinder wie
many sy halten und erziehen sol von irer gepurt
biss sy zu tagmen komen. Faksimile der Inkuna
bel "Ein regiment der jungen kinder" von Batho
lomäus Mettlinger, gedruckt von Hans Schaur zu
Augsburg im Jahre 1497. Kommentar von Peter
Amelung, Dietikon 1976.

This is a book about childcare and the typical
diseases of small children. The author's love for
babies makes it a very interesting read from a cul
tural historical perspective. Outside of his counsel
of good diet for children, he also gives advice for
nurses. He describes the typical diet of everyday
people and tells the reader which of these dishes
are suiteable for a nurse and how one can make a
normal recipe more digestible. Voilà: This is what
we need as a base for historical cooking.

Reading these sources, we plan to come up with
a whitelist of food. So we are not starting from a
modern diet and then we substract potatoes and
tomatos. No, we start from scratch and then we
add basic ingredients to this list; each one of them
in its historical context. The result will form a new
base for historical cooking.

*This article was first published in February 2010 on the
Company of Saynt George Blog.*



CAMELINE SAUCE

By Paul Denney, Veteran Company member

Cameline sauce was a standard medieval sauce and was produced in large quantities in most of Europe. So popular was it that it could be obtained readymade in much the same way as we would buy readymade sauces today.

”At the sauce-maker’s, three half-pints of Cameline for dinner and supper and a quart of sorrel verjuice.” (1)

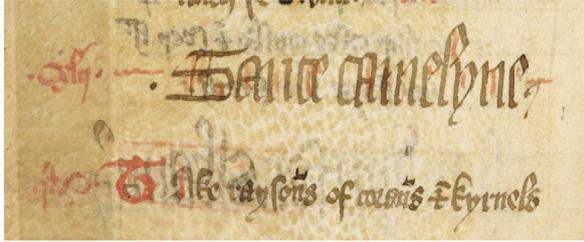
It would appear that the ingredients and methods of cooking Cameline sauce tended to vary. In winter it could be boiled up and served hot, in summer the same sauce could be served cold (1). As to

which spices were included, that would appear to be pretty much up to the cook making it, however Cinnamon is almost always the base spice around which the sauce is constructed. But not always, as a Garlic Cameline recipe suggests (see (1) below).

Vinegar (or verjuice) and bread are always added, the vinegar to add sharpness and the bread as a thickening agent. In some recipes wine replaces vinegar but I dare say that in the medieval period, even more so than today there wasn’t much difference between cooking wine and vinegar anyway and it served the same purpose. No quantities of ingredients are given in any of the recipes, which



Essential for the preparation of Cameline sauce is a mortar for grinding the spices (Photo: Eliane Caramanna 2010).



The recipe for Cameline sauce in the cookbook *Forme of Cury* dated to the late 14th century (Source: University of Manchester library, *MS Z, fol 68v.*)

is the norm. The cook would have decided on quantities based on a combination of experience, personal taste and I dare say availability of ingredients at time of cooking.

Cameline sauce seems to have been served with a wide range of foods, especially fish. Pike, Shad, Trout, Lamprey, Red Gurnard, Red mullet, Grey gurnard, Stock fish, Dogfish, Salmon, Mackerel, Garfish, etc . It was also popular with Veal, Mutton, Kid, Lamb, rabbit, and Heron. But for some reason only lazy people ate it with stuffed piglet (3)?

Cameline sauce really is very good and it puzzles me why it seems to have disappeared quite so completely from the western European diet. For those who want to try and make it for themselves I have included a selection of period recipes below for you to experiment with.

If you do intend to have ago what I would suggest is this. Make the sauce fairly bland to start with and then add spices gradually, tasting as you go. This is especially important with vinegar as too much will spoil the sauce (in my opinion). The recipe in “Le Managier de Paris” (1) includes sugar and I find that this is a worthwhile inclusion. Whatever you do, make a record of the various ingredients and quantities and next time you make it the need for experimentation is removed.

This article was first published in June 2010 on the Company of Saynt George Blog.

RECIPES AND REFERENCES

”LE MANAGIER DE PARIS” (1)

Note that at Tournais, to make cameline, they grind together ginger, cinnamon and saffron and half a nutmeg: soak in wine, then take out of the mortar; then have white bread crumbs, not toasted, moistened with cold water and grind in the mortar, soak in wine and strain, then boil it all, and lastly add red sugar: and this is winter cameline. And in summer they make it the same way, but it is not boiled.

Garlic Cameline Sauce For Ray.

Grind ginger, garlic and crusts of white bread soaked in vinegar, or toasted bread, and soak in vinegar; and if you add liver it will be better.

Source: *Le Managier de Paris*”, [English online edition](#).

“A NOBLE BOKE OFF COOKRY” (2)

To mak sauce camelyne for quaile, tak whyt bred and drawe it in the sauce in the manner of guinger sauce with venyger put ther to powder of guinger canelle and powder-lombard a goodelle and ye may draw alittle mustard ther with and session it up with mustard that it be douce salt it and colour it with saffron and serue it.

“A Noble Boke off Cookry” ca 1468, R. Napier (ed.) [Online edition](#).

“LE VIANDIER DE TAILLEVENT” (3)

Take ginger, plenty of cassia, cloves, grains of paradise, mastic thyme and long pepper (if you wish). Sieve bread soaked in vinegar, strain [through cloth .ed], and salt to taste.

Source: *Le Viandier de Taillevent*, [English online edition](#).

LIBER CURE COCORUM, (4)

Sawce camelyne, kervelettes and oper thyngus. Take raysons of corouns and kyrnels smalle Of notes, and do away þo schale,

*Take crust of brede and clowe in fere,
And powder imaked of gode gyngere,
Flowre of canel þou schalle take, þenne
Bray alle togedur, as I þe kenne,
In a mortar and salt þerto;
Temper alle with venegur, þen hase þou do,
And messe hit forthe; þis is sawce fyne,
Pat men calles camelyne.*

Source: Liber cure cocorum, ca. 1430. [Online edition.](#)

“THE FORME OF CURY” (5)

*Take Raysouns of Coraunce. & kyrnels of notys.
& crustes of brede & powdour of gyngur clowes
flour of canel. bray it [2] wel togyder and do it
þerto. salt it, temper it up with vynegur. and serue
it forth.*

Source: “The Forme of Cury” ca. 1390, S. Pegge (ed.) [Online edition.](#)

“TWO FIFTEENTH-CENTURY COOKERY-BOOKS” (6)

Sauce gamelyne.

*Take faire brede, and kutte it, and take vinegre
and wyne, & stepe þe brede therein, and drawe
hit thorgh a streynour with powder of canel, and
drawe hit twies or thries til hit be smoth; and þen
take poudere of ginger, Sugur, and poudere of clou-
es, and cast þerto a litul saffron and let hit be thik
ynogh, and thenne serue hit forthe.*

Source: Two Fifteenth-Century Cookery-Books, T. Austin (ed.). [Online edition.](#)



12 kinds 1gros a can

HELGA SPECIAL BRAND
PEPPERED HKB
POLISH DELIGHT
GREY FISK SOUP
PÉRIGORD MUSHROOMS
FONDUE GRUYÉRIEN
DANISH COW-FEET
CZECH BEER SOUP
MINCED KNIGHT
MIEVEAL MARKET
MISH MASH
BUIILON JOJO

*Just add hot water, bring to a
boil, and serve it forth.*

Look for the grey-and-white label



Photo: Andreas Pettigean 2017

TRIPLE DISGUISED AS OMELETTE BALLS

By Christian Folini, Veteran Company member

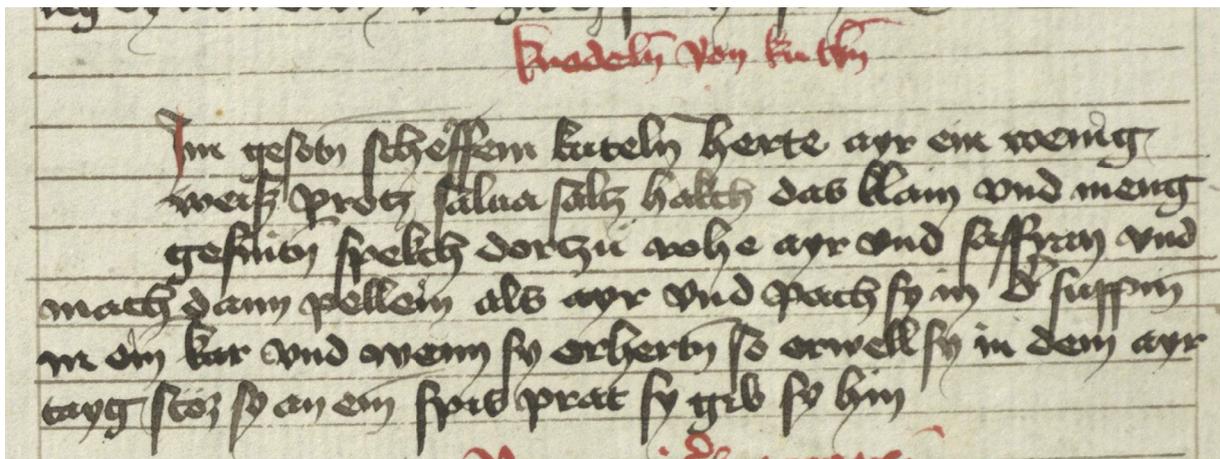
Prof. Dr. Helmut Birkhan is an entertaining figure. When I attended the conference of medieval daily life and material culture of the Institute in Krems, Austria, in 1998, he was one of the more interesting participants. Another person told me he was cooking medieval magic potions with his students as part of their sourcebased research. And when editing a late roman text about Austria, he identified a strange latin word as a mushroom that is still known to exist in modern Austria. In order to underline this fact, he added his favorite recipe to cook this mushroom in a footnote. Obviously, a man with taste and with a deep interest in kitchen reenactment!

A friend of mine working at Peter Lang Publishers was the personal contact of Prof. Birkhan and she furthered my admiration with a constant flow of anecdotes like this. I have not met Prof. Birkhan again. However, 2008, my grandmother offered me a wonderful gift for Christmas. The fact, that

Helmut Birkhan had played a role in the publication contributed to my grandmother's success:

Doris Aichholzer (Ed.): *"Wildu machen ayn guet essen ..."* *Drei mittelhochdeutsche Kochbücher: Erstedition, Übersetzung, Kommentar* (Wiener Arbeiten zur Germanischen Altertumskunde und Philologie. Edited by Helmut Birkhan), Bern, Berlin, Frankfurt a.M. et al. 1999.

This is a quality edition of three Middle High German books of recipes with modern translation, a modern German index and a glossary of the medieval expressions. The collections being edited are the cookbook of Mondsee 1439/40 (Cod. 4995), the book of recipes of Innsbruck likely 1451 (Cod. 5486) and the cookbook of the Dorothea Monastery in Vienna dated to the 15th century and partially to the 14th (Cod. 2897). This edition is a marvel that is even furthered by the very good commentary. But once you have your



The recipe for "Knedeln von kuteln" in the cookbook of the Dorothea Monastery in Vienna dated to the 15th century (Source: Wien, Österr. Nationalbibl., Cod. 2897 fol 23v)

whitelist of ingredients, then cookbooks come in handy as they describe the typical ways of preparation. I like the following recipe for example:

KNEDELN VON KUTELN

[N]im gesoten scheffein kuteln, herte ayr, ein wenig weiß protz, salvay, saltz. Hakch das klain und meng gesniten spekch dortzū rohe ayr und saffran und mach dann pellein als ayr und pach sy in der suppen in ein kar. wenn sy erherten, so erwell sy in dem ayr tayg. Stöz sy an einen spis, prat sy, gib sy hin. (From: Cookbook of the Dorothea Monastery in Vienna, fol 23v, first half of the 15th Century).

So, you take cooked tripe from sheep, boiled eggs, some white bread, sage and salt. Cut it into small pieces and add bacon, raw eggs and (if you can afford it) saffron. Form this into egg-sized balls and boil them in a soup. When they are done, roll them into a dough of eggs, put them on a stick and bake them.

This is the only tripe recipe in the book. This compares to eight liver recipes. So much on the former popularity of tripe. The recipe shows cooking as an iterative process. This is not convenience food readymade in a pan. Instead, the tripe is cooked, cut, cooked again and finally baked. And it is being disguised in a way you will not recognize it again. I do not think this is limited to tripe, but it is a great example of this medieval art: You start with tripe and you end up with baked objects in the form of eggs, covered in an omelette dough. Ideally, they are tasting of sage and saffron.

This article was first published in June 2010 on the Company of Saynt George Blog.



ODDS & ENDS



THREE ILLUSTRATIONS OF GRATERS AND SLICERS

Left: From [Trivulzio Book of Hours folio 86v](#), Flanders ca. 1465. A fool riding backwards on a donkey bowing a grater with a handle. (Source: Koninklijke Bibliotheek, Den Haag) Middle: From [Von allem Hawsrath](#), 1514. A grater mounted on a wooden board(?) with a handle. Right: From a small [wooden casket](#), Upper Rhine first half of the 15th century. A lady tears her heart on a cabbage (?) slicer. (Source: Historisches Museum Basel). When the recipes talk about grating cheese, gingerbread or spices this is the obvious equipment to use. If you come across other images of graters or slicers, please write and send them to DRAGON.

We would very much like to make ODDS & ENDS a permanent feature in DRAGON. Directly inspired by the Questions and Answers page, we see it not only as a convenient page filler but as a showcase for information of all sorts, either exceptional, curious or mundane, but not warranting a full article. Rather than have these tidbits sleep in drawers and between the pages of books, we would like to share them and solicit further contributions.

A SET OF CARVING KNIVES

By Christian Folini, Veteran Company member

Noble culture is representative. You could say that in order to qualify as a medieval noble, you had to be a show-off. Nothing to show - can't be a noble then. One of the big challenges for the event in Nykobing (Denmark) in 2010 is to setup a representative display of nobility. Given the size of his retinue (the Company of St. George, that is), our knight and lord is no unimportant man. So, the level of noble equipment has to be raised even more.

We have thus identified key items which can help us define the display of noble culture. In this article, I am presenting you a group of these key items: The carving knives.

The catalogue of the bernese exposition on Charles the Bold and his court features a set of carving knives on page 291. Based on these originals, Tod's Stuff made three copies for us. They are going to be used at the table of our lord and master; mainly by the Escuyer Tranchant, the servant who cuts up the meat for the lord and his family.

The leather sheaths were done by Andreas Petitjean, a well-known leather carver and scabbard maker of museum quality.

The knives and the sheath will play a big role in Nykobing. Especially on Monday August 2 (2010), when our lord and knight Dominic Sewell hosts a feast in honor of his opponent in the Joust, Toby Capwell.

This article was first published in June/July 2010 on the Company of Saynt George Blog.



A set of burgundian carving knives for the noble table (Photo: Tod's stuff 2010)



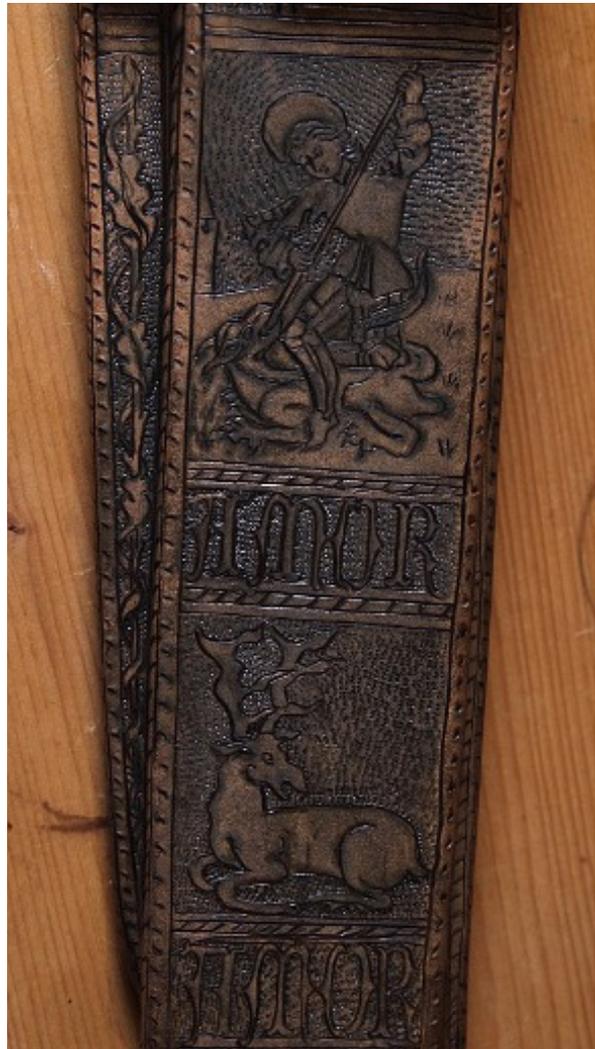
The carving knives in use during the event in Nykobing 2010. (Photo: Floor Verhoeven 2010)



The leather sheath combining three knives into a single sheath (Photo: Andreas Petitjean 2010)



A detailed view of the carving knives for the noble table (Photo: Tod's stuff 2010)



A detail shot with St. George fighting the dragon and a deer, the personal animal of our lord at the event (Photo: Andreas Petitjean 2010).

THE JEW`S HARP - A SIMPLE INSTRUMENT FOR EVERYBODY

By Denis Louchart, Veteran Company member

A few words about the jaw's harp, this little musical instrument no very difficult to play: one presses the frame of the instrument upon his jaw with one hand as a finger of the other hand plucks the single reed (vibrating lamella). Various notes can be obtained by modifying the shape of the mouth which plays the part of a sound box. Here's a musician-angel playing the jaw's harp represented on a Hans Memling painting.

Christian Folini recently shared with me an excerpt of "Kolltveit, Gjermund. Jew's harp in *European Archaeology*. Oxford 2006" which was sent to him by the german archaeologist Doris Fischer, where it is said that plenty of jaw's harps were found in archaeological excavations carried out in mediaeval castles. In short: the author comes to the conclusion that jaw's harps were popular instruments probably not played by nobles or minstrels, but by workers and soldiers during their free time, notably travelling soldiars who contributed a lot to the fact jaw's harps were spread in Europe. The author also evokes a whole military garrison from Canton Schwyz the members of which became completely addicted to this small musical-toy!

Several jaw's harps were found at Haut-Koenigsbourg before it was restored at the turn of the 20th century. Their thin and fragile reeds have disappeared. Only their iron frames subsisted in part. We don't know accurately from which century they date.



A jew's harp on one of (After) Hans Memlings paintings. Béthune Madonna with Angels making Music, ca. 1433-1494. (Source: Wikimedia Commons)

In western Europe, jaw's harps were mainly "heteroglot" (a separate reed fixed on a frame) and made of metal (forged frame). Rarely mentioned in mediaeval texts, the instrument was called "jew's harp" (one does not know the origin of this name), as well as "trump"... A jaw's harp is represented on the coat of arms of swiss "Trompii" fa-

mily. This heraldic emblem would allude to their name (such coats of arms are called “armoiries parlantes” in french as they tell about the name of the family): Doris Fischer says that indian jaw’s harps of morchang type are very near to those which could be owned by soldiars of an end of the middle-ages garrison like the one reenacted by the Companye of St-George. Some can be bought www.danmoi.de.

Here’s a link towards the best jaw’s harp page I’ve found on internet. It was published by the jaw’s harp virtuoso Michael Wright: <https://www.silk-road.com>

This article was first published in April 2011 on the Company of Saynt George Blog.



Three jew’s harp found at Haut-Koenigsbourg (Photos: HKB).

THE JAKOBSLIED

Excerpts from “Wer das elent bawen wel” a late 15. century pilgrim song.

Wer das elent bawen wel,
der heb sich auf und sei mein gesel
wol auf sant Jacobs straßen!
Zwei par schuoch der darf er wol
Ein schüßel bei der flaschen.

Ein braiten huot den sol er han
und an mantel sol er nit gan,
mit leder wol besezet,
es schnei oder regn oder wähe der wint,
dass in die luft nicht nezet.

Sack und stab ist auch darbei,
er luog, dass er gebeichtet sei,
gebeichtet und gebueßet!
Kumt er in die welschen lant,
er findt kein teutschen priester.

Ein teutschen priester findt er wol,
er waiß nit wo er sterben sol
oder sein leben lassen,
stirbt er in dem welschen lant,
man grebt ihn bei der straßen.

From: Wer das elent bawen wel. Ein Pilgerlied aus dem 15. Jahrhundert. In: Klaus Herbers/Robert Plötz: *Nach Santiago zogen sie. Berichte von Pilgerfahrten ans ‚Ende der Welt‘*. München 1996, p. 151-163.



REENACTING RELIGION

By Christian Folini, Veteran Company member

You can go very far with reenactment in many directions. We cooked beef feet and people loved it, we showed the audience shrapnel loads in the canon and the public was fascinated, we have fencing masters demonstrate how to break the elbow of an opponent quickly and the newbies watch it in awe. Few people ever told us we were taking it too far.

But there is one thing where you hit the limit immediately. That is when you try to reenact religion. Modern religion is personal, private and very often individualistic. Medieval religion was common, public and much more homogeneous than it appears nowadays. Reenacting religion the medieval way touches the feelings of modern people and it shies away non-religious people because they think it might hurt the feelings of religious people.

Personally, I believe that religion is a central part of medieval life. I do not think everybody was a true believer or everybody lived according to the gospel. But I am confident that a fair percentage were and that the medieval society expected or even forced everybody do behave as if he or she was a believer.

Therefore, I think that a medieval display without religion is incomplete. And having discussed this with a big number of people, I know that most members of the Company of St. George see it the same way. But let me concede there is a substantial minority of members who think that it is a difficult topic, that we should leave our hands or handle it with exceptional care.

So I thought I would try find to find the position of the Roman Catholic Church when it comes to reenacting religion. I got in touch with two orda-



Third order Franciscans in front of the Chapel in Gruyeres Castle (Photo: Eliane Caramanna 2011)

ined priests and received some valuable insights. But I had to ask an episcopal judge, a so called official, in order to get a balanced view on the subject. Dr. Titus Lenherr from the diocese of St. Gall, Switzerland, has been very forthcoming on this question.

A catholic priest is ordained. This means he stands in apostolic succession with the initial twelve Apostles who followed Jesus Christ. When he performs liturgical rituals or even sacraments, he acts in the name of god through the power of god



Priests in the camp. (Source: Tschachtlan Berner Chronik o. 1470, Vol 1, p. 462)

given to the catholic church. I am sure you see that choosing such a role for reenactment brings up tricky questions.

Before we dig deeper, let me define these liturgical acts. There are prayers and blessings and standard rituals, then there are the sacraments and finally the sacrament of the holy communion, the Eucharist. For simplicity let's think of these as levels of holiness with the Eucharist being the most holy ritual which a priest can perform.

The Catholic Church has a long tradition of Canon Law. This is the legal base for the church and it deals with all sorts of things. In Canon 1378 and 1379, the law covers the affair in brief words. The law announces punishment for those who try to do perform the Eucharist, hear the confession or try to administer any other sacrament. My contact in St. Gall explained that playing or theater is not a problem. The problem and the law starts when somebody impersonates an ordained priest, makes the audience believe he is an ordained priest and then attempts to actually perform the sacrament. The core lies in the intent of tricking somebody into a wrong belief.

This is why you can see actors play priests in the movies without causing a scandal. But then he went on to explain that there is a dimension behind the law. He thinks that it is important that such a display is done with dignity in a way nobody is offended. Believers should not be hurt and a display is no problem if it is done with respect and not as a mockery or with a blasphemous intention. What matters here is the inner motivation.

A friend of Titus Lenherr works with the TV and had some further insight for us. He says that most film productions do not show the holy communion/Eucharist. The camera moves away at the right moment or already a prayer is enough to bring the intended effect for the movie (there are exceptions to this rule though). He also thinks that the display of a holy communion is inappropriate without a clear need or intention for the display.

Now this was a balanced view and it allowed the Company of St. George to find a reasonable position which allows for religious display without running the risk of hurting anybody: We welcome a priest in the camp and we welcome liturgical acts. We want to make sure that somebody playing a priest does so with dignity and we agree that there is no need for the public display of the Eucharist let alone distribution of the holy communion. So we opted to leave this away from our display.

Among our members, we have found a vast majority for this compromise position. Now the next and much more difficult questions are those about the correct display of such a role. How does a 15th century priest pray, bless or preach? What is his function in a camp or garrison exactly? A lot of research lies ahead of us. And I am very eager to learn more.

This article was first published in July 2011 on the Company of Saynt George Blog.

THE GOAT GAME

By Christian Folini, Veteran Company member

The book *Wahre Geschichten aus dem Mittelalter* (2010) by Arnold Esch quotes Simon Buchel, an Augustine monk from Constance, explaining a game (page 140). He names the game "caprenare", translated as "Hit the Goat" or "Goat Game".

Simon had been playing this game when a terrible accident happened: He threw his stick against the goat. The stick bounced back from the ground and hit a boy between the shoulders. The boy was seriously wounded and died shortly afterwards. Simon, involved in the killing, had to clear himself even if it was an accident. Otherwise, his clerical career would be over. So in 1466, he went to Rome to explain his story and to be cleared from all charges.

In order to grant him the desired paper - or parchment, we can assume - the papal chancellery wanted to know all the details of the accident.

The source is in Latin, Esch brings a German translation, this is my English translation of the German text. The original explanation in Latin can be found in the *Repetitorium Poenitentiarie Germanicum* V, nr. 2000, year 1466.

"The players place a piece of wood, two hand widths long on a flat surface. This wood has three legs and they call it the goat. The place themselves in a distance of six feet from this tripod. Each one of them with a stick of 3-4 hands width length in his hand. They throw the stick in the order first, second, third, etc. And who hits the tripod, leaves the pitch, sets up the wooden goat and stays outside the pitch or at the marked position, until a different player hits the wood with his stick. Then the first one returns to the game and the other one



The goatherd places the goat and prepares to come after the other participants (Photo: Silvia Ballabio 2015)

stays outside and puts the goat anew and so on. Then it happend, when it was Simon's turn and he wanted to throw his stick against the goat. The stick hit the ground and because of the vigorous shot, he bounced back and hit a 14 year old player, who did not stay in his position as it was meant. The boy walked around instead and was hit on the back at the shoulders."

All entries in the registry are cases that ended with positive results. This means Simon was cleared and we can assume he returned to Constance as a monk. His case gives us the chance to play this game. The explanations above make some sense, but I was not really sure. So I talked to Doris Fischer, a German archaeologist who is about to write a book about games in the Middle Ages.



Everybody tries to get hold of a stick pushing and shouting wildly (Photo: Silvia Ballabio 2015).

She did not know the source, but she knew the game. According to her it has been played from Scandinavia down to the Balkans. But I had pointed her to the first medieval source describing it.

So this is her explanation and our adoption for Company of St. George games:

- There is a goat. A piece of wood resembling a goat.
- There is a goatherd. If the goat is knocked over, he has to run and place it upright again.
- There are the ordinary participants. Each of them has a stick. They use the stick to throw it against the goat and to try and knock it over. One participant after the other.
- Now comes the fun part: When the goat falls, all the participants who have thrown their stick already run to get a new stick from the ground. It does not matter which stick. At the same moment, the goatherd places the goat anew and as soon as he is done, he can try and get hold of the other participants.

- If he manages to hit one of them before they returned to the initial position, he is released and the said person becomes the goatherd.
- The person knocking the goat over with its stick scores a point. The person with the biggest score wins the game.

Additional rules: It is not okay to push the goatherd and it is not allowed to kick the goat away. Everything else seems to add to the fun of the game.

It's a game with a fast-changing pace. Everybody waits for somebody to knock over the goat. Then you run and grab a stick without the goatherd hitting you. Then you try to calm down to take good aim at the goat. It is very entertaining to watch the chaos, which evolves when everybody tries to reach the closest stick. Also for bystanders.

This article was first published in August 2010 on the Company of Saynt George Blog.

FORGE EXPERIMENTS: LONG RONDEL DAGGERS

By Andrea Carloni, Recruit Company member
in cooperation with Marco Vignola, Enrico Lazzari and Matteo Ercole

The following article is intended as an account of a recent attempt at reproducing two long rondel daggers, a peculiar kind of side-arm which is widely attested both in museum collections and Central European iconographic sources (see bottom of page, ref. "A"), from at least late 14th to the last decade of 15th century, though it is basically neglected by most re-enactors.

Craftsmen:

Enrico Lazzari & Matteo Ercole (Vicenza, Italy)

Commissioners / Supervisors:

Marco Vignola & Andrea Carloni

The technical approach to the blade was completely different for the two pieces, due to their distinct sections and intended use. Furthermore, we have to point out that the dagger commissioned by Andrea is directly inspired by an original finding, showing punctual features to reproduce. Instead, Marco's dagger is the fruit of an accurate interpolation of direct and indirect sources for



LEFT: a long rondel dagger commissioned by Marco Vignola (veteran member). RIGHT: fight scene from an Italian illumination dating back to 1460 c. (*De Sphaera Codex, folio 5v, Biblioteca Estense Universitaria, Modena, Italy*).



*ABOVE: an original 15th c. long rondel dagger, displayed at the National Museum of Bargello in Florence (inv. RE115).
BELOW: a faithful replica of the original shown above, commissioned by Andrea Carloni (recruit member).*

every single part, coherently assembled thanks to the typical philological congruence of an archaeologist and long-term re-enactor.

For both blades modern monolithic steel was left aside, in favour of a structure made of two different kinds of metal. Our blacksmiths opted for C70 and iron, which should match the chemical and mechanical properties of late medieval steel better.

Our pattern welding choice was driven by the purpose of replicating a common standard for the period, which we might ironically call “sandwich-style damascus”. Considering the outcome blade in section, steel appears to be placed in the middle, carefully wrapped by two iron bars, which sort of clasped both sides. The major benefit of this technique is the possibility of developing highly reliable blades, as well as very slender cutting edges to be placed upon the blade, since the diagonal welding line mostly allows monolithic firmness, which is much more difficult to achieve with “column welding”, as the latter is exposed to higher risks of fracture.

By observing paintings and illuminations one can easily notice that this kind of long blades were primarily meant for thrusting, thus most of the forge work was meticulously performed to drive metal layers alongside the cutting edges and towards the tip, in order to maximize their effectiveness.

Both daggers present concave bevels on the blade, a feature frequently attested in museum pieces, i.e., at the Royal Armouries in Leeds (see bottom of page, ref. “B”), consistent with the aim of reducing the dagger’s weight as much as possible. It was a functional requirement specifically asked for by Marco and virtually a Hobson’s choice for Andrea, who needed to copy the original shape of the relic displayed at Bargello.

Quenching proved to be a critical step for both blades. Craftsmen used a modern electric furnace: though distant from their usual integralist approach (they’re still unsatisfied for having to bend to a compromise!!), that was the only way to avoid wild cards after plugging away with top quality forging. The goal of this treatment was to harden the edges and tip, as well as making them stress-resilient. The result was a blade more inclined to flex rather than break, preventing steel

splinters from being ejected during a hypothetical fight. For the experts in the field: we're talking of a quenching done at 810° C, using oil for dipping and 1-hour tempering at 390° C.

Once finished, the blades were carefully polished and submitted to a number of breakage tests, which turned out to be completely successful. A slight flaw emerged at the end of the process only for the double-edged dagger. It was possibly due to the temperature leap, which caused a tiny detachment of the weld around the tip area. The blacksmiths verified that the problem affected only the superficial layer, without impairing the full mechanical functionality of the blade, so they decided not to perform any recovery operations. There are substantial differences between the two blades. Marco's is single-edged (triangular section) and shows a mighty 1-cm-thick backside, pretty much effective in battle, especially for piercing chainmail or "unhinging" armour plates. On the contrary, Andrea's is double-edged (flat diamond section), extremely light and sharp, a quick, ideal mate during civilian contexts, i.e., trying to survive in an ambush. It's a matter of fact that using a long dagger as a side-arm implies a lower level of hindrance compared to a sword!

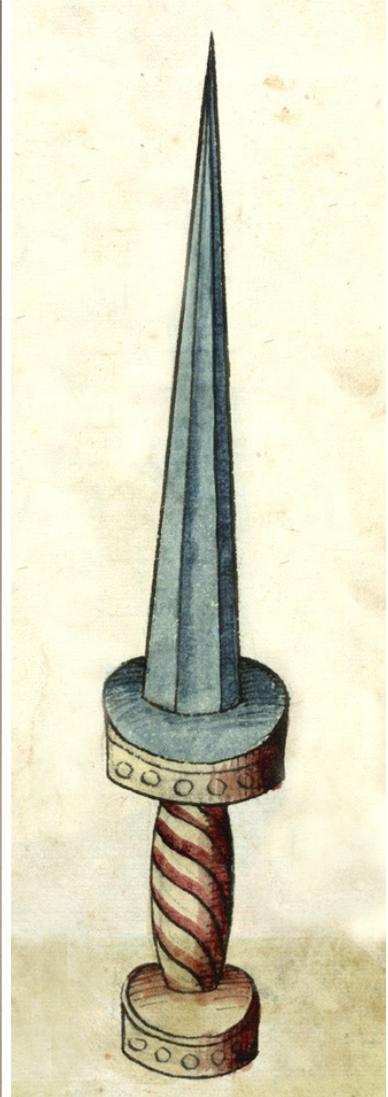
The hilts appear different as well in the two replicas, although they show quite similar technical features.

Now, originals are often composed of hollow box-like rondels. By observing them closely and striving hard to discover the ancient manufacturing techniques used, you can often notice marks of soft soldering, possibly made with common alloys, tin in particular.

As usual, the skill and knowledge of our ancestors were amazing: the hollow rondels were masterly fixed to the hilt, sometimes to the point of concealing the projection of the hammered tang after its peening in place! That is how rondels look like in the Bargello dagger and the same were reproduced by Enrico and Matteo for Andrea's replica. Tin soldering was performed freehand on a flame, just like it was probably done about 550 years ago. Thanks to a great deal of patience and accuracy, the rondels were hermetically sealed. It's important to note that the property of tin to reach its melting point at a rather low temperature (232° C) had no impact at all on the previous quenching phase.



CLOSE-UP OF THE BARGELLO DAGGER (RIGHT) AND ITS REPLICA (LEFT): the bottom rondel shows three small brass decorative spheres and a smooth solder line just underneath the upper "plate".



CLOSE-UP ON MARCO'S DAGGER: it shows a spiral shaped grip, just like in a dagger featured in 'Alte Armatur und Ringkuns' by Hans Talhoffer, 1459 (Copenhagen Royal Library).

As for the triangular section dagger, commissioned by Marco, the bottom rondel is solid (not hollow), a custom requirement which helps keep a correct balance to the whole dagger and by placing its barycentre roughly at 1 cm from the "hilt rondel". This allows quite a heavy dagger to be properly handled and suspended to a belt without going topsy-turvy while walking or drilling. The horn grip was embellished with a typical spiral motif, an engaging fashion well attested by 15th c. sources (see bottom of page, ref. "C").

Before concluding, let us add a few more words about Andrea's dagger since it proved to be a real challenge, considering we couldn't visit the armoury at the National Museum of Bargello for it was closed for renovation.

Thus, providing we couldn't study the original dagger in every part and were still resolved in matching all its features as carefully as possible, we inevitably had to rely on published data concerning measurements and weight (see bottom of page, ref. "D") and calculating the unknown va-

lues through a dull work of approximation and volumetric calculations. Despite difficulties, Enrico and Matteo are very satisfied with their final outcome.

Bargello's relic (known data):

Total Length: 595 mm

Blade length: 474 mm

Blade width: 24 mm

Weight: 370 gr

Replica:

Total Length: 598 mm

Blade length: 474 mm

Blade width: 28 mm

Weight: 377 gr

Since the hilt grip is missing in the original piece, we have surmised that it might have been made of wood, and had completely deteriorated over the centuries: the weight difference with our replica may be largely ascribed to this factor. The commissioner specifically asked for a totally "safe" wood: certified Italian walnut, widely spread in all central Europe too according to late medieval evidence.

The craftsmen extended the hilt length just a few millimetres, to fit Andrea's hand better. As a consequence, the blade width had to be enlarged at the base, passing from 24 to 28 mm, in order to not compromise its overall shape. All things considered, they are tolerable adaptations, aren't they?

This article was first published in August 2013 on the Company of Saynt George Blog.

**REFERENCE LIST
FOR LONG RONDEL DAGGERS**

A. ICONOGRAPHIC SOURCES:

- 1455-1465 c., Altarpiece (detail), St. Lorenz Church (Nuremberg, Germany);
- 1460 c., "De Sphaera" (a.x.2.14=Lat.209), folio 5v and 8r, possibly illuminated by Cristoforo De Predis, Biblioteca Estense Universitaria di Modena (Modena, Italia);
- 1460-1465 c., "Saint George" by Maître de Monticelli (Jérôme Bembo), Museo Civico Ala Ponzone (Cremona, Italy);
- 1466-1499 c., "San Sebastian" by Master of Villalobos, Museum of Fine Arts (Budapest, Hungary);
- 1469, Winer Schottenaltar (detail) by Master Schottenaltar, Schottenstift Monastery (Vienna, Austria);
- Late 15th c., episodes from "Saint Fiorenzo's life", San Fiorenzo Church (Bastia Mondovì, Italy);
- 1480-1485 c., "Storie di Lucrezia" by Biagio d'Antonio, Ca' d'Oro (Venice, Italy), Franchetti coll.;
- 1494, "La caduta dei Bonacolsi" (detail) by Domenico Morone, Palazzo Ducale di Mantova (Mantua, Italy).

B. MUSEUM RELICS:

- 1300 c., possibly French or Spanish, Bargello National Museum (Florence, Italy), inv. 1717, Carrand coll.;
- 1300 c., European, Koninklijk Legermuseum (Brussels, Belgium), inv. 2601;
- 1400 (early), possibly English, Royal Armouries (Leeds, England), inv. X.602;
- 1400 c., possibly French or Spanish, Bargello National Museum (Florence, Italy), inv. RE115, Ressman coll.;
- 1400 c., possibly German, Germanisches National Museum (Nuremberg, Germany), inv. W2813;
- 1440 c., English, Royal Arsenal Museum / Tojhusmuseet (Copenhagen, Denmark), inv.

C17/42;

- 1500 c., Italian, Musée de l'Armée / Les Invalides (Paris, France), inv J PO 1192.

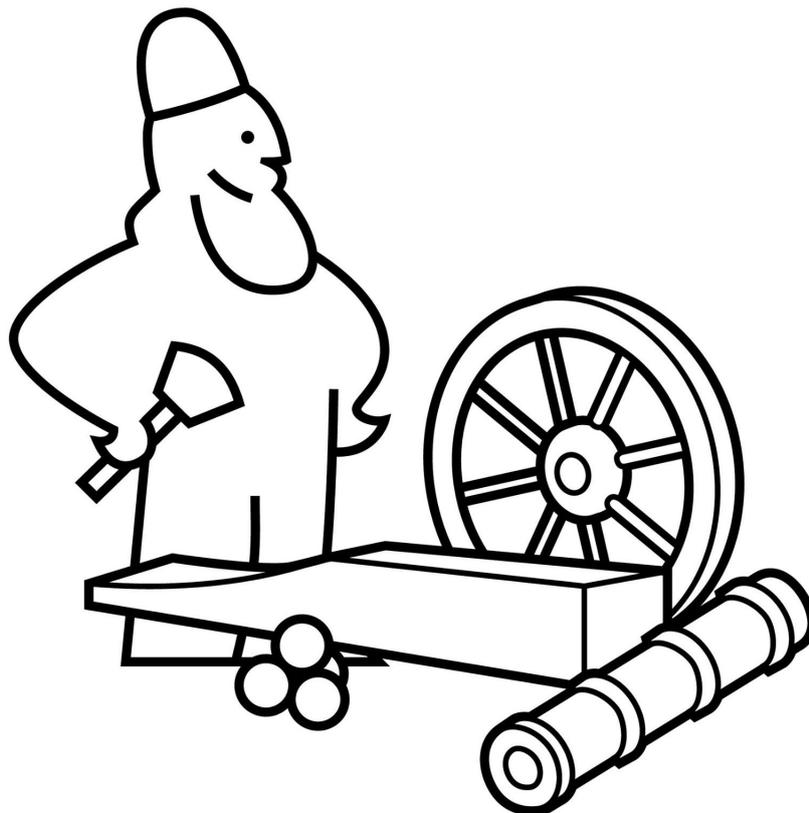
C. TWISTED HANDLE DAGGERS:

- Late 1300 - early 1400, possibly French or Italian, Musée National du Moyen Age / Hôtel de Cluny (Paris, France), inv. CL11831
- Early 1400 c., possibly English, Royal Armouries (Leeds, England);
- 1459, "Alte Armatur und Ringkuns" by Hans Talhoffer, Royal Library, Copenhagen (Online; see page 62)

D. LONG RONDEL DAGGER AT THE NATIONAL MUSEUM OF BARGELLO (BIBLIOGRAPHY):

- L. GIANNONI, *L'Assedio di Piombino del 1448*, coll. "Nuovi Quaderni dell'Archivio Storico della Città di Piombino, 2", Archiviinform, Livorno, 2011, pp. 76-77;
- L. SALVATICI, *Posate, pugnali, coltelli da caccia*, Museo Nazionale del Bargello / SPES, Firenze, 1999, p. 64

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STRIKE-A-LIGHTS, FLINTS AND TINDERS: WHICH HISTORICAL SOURCES?

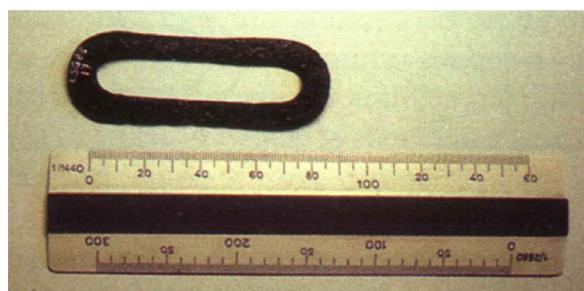
By Andrea Carloni, Recruit Company member

When talking about lighting a fire, especially for domestic use, modern man automatically thinks of matches and lighters, because collective memory actually ignores that, for thousands of years and at least up to the end of 19th century, this task had been invariably performed through strike-a-lights, flints and tinders. The longevity of this outdated custom is confirmed by many historical literature quotes, even from worldwide known works, such as *I Promessi Sposi* by Alessandro Manzoni (1842) which reads in a passage: «...cava fuori esca, pietra, acciarino e zolfanelli ed accende un suo lanternino» (transl. «...takes out tinder, flint, strike-a-light and sulfur sticks and lights up his little lantern»).

Manual strike-a-lights, which have to be ascribed to the first of five evolutionary phases [1], are archaeologically attested from the 5th century A.D.[2]

Though now used with some difficulty by re-enactors, it's a tool of quite a simple structure, consisting of cemented steel, or rather an iron-carbon alloy produced through hardening and quenching. The latter is essential as it allows the crystallization of the atomic iron grid in a particular form called "martensite", which is extremely hard (the same process was commonly applied on blade edges)[3].

Original strike-a-lights are mostly bars, variously shaped and stretched out, with inward twisted

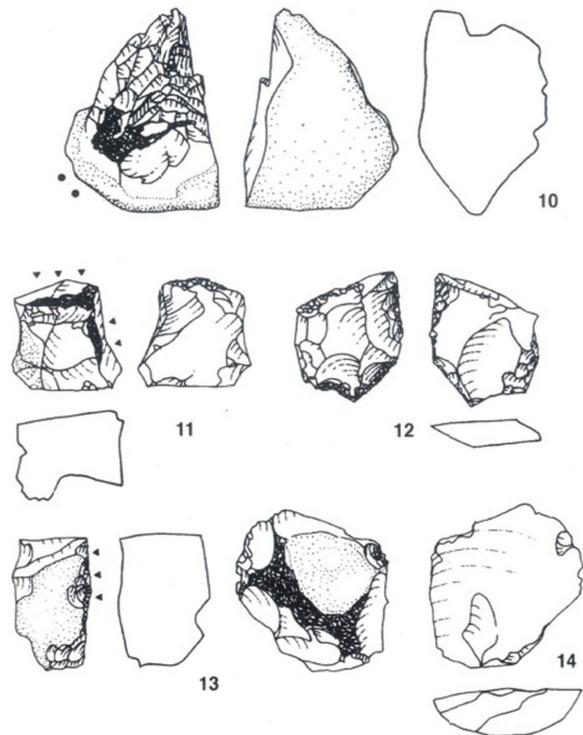


ABOVE: strike-a-lights from Puchberg Castle ruins, Schneberg Museum, Austria (photo courtesy: Andreas Bichler).
BELOW: strike-a-light from San Gottardo Castle, Mezzocorona, Italy (see note no. 6 below).

ends forming opposed curls of equal size; more simply, they could be provided with loop handles -one or even more - in order to assure a steadier grip.



A few original strike-a-lights from the author's collection, mostly found out in Germany and the Balkanic Area, dating back to Roman Times until the 17th century (Photo: Andrea Carloni 2015).



LEFT: some flints from the author's collection (Photo: Photo: Andrea Carloni 2015).

RIGHT: drawings depicting 13th-14th c. flints discovered in the "Busa dei Preeri", Avio, Italy (see note no. 4 below).



LEFT: collar of the Golden Fleece, late 15th c., Kunsthistorisches Museum - Schatzkammer, Vienna, inv. SK WS XIV 263.

RIGHT: embroidered emblem of the Duke of Burgundy, 1450-1475 c., Historisches Museum, Berne, inv. 310 a (see note no. 8 below).

Likewise, closed types are not so infrequent, such as drop-shaped (a few have been dug out at Puchberg Castle, now displayed at Schneeberg Museum in Puchberg-am-Schneeberg, Austria) or ellipse-shaped artifacts (i.e. a merovingian finding excavated at San Gottardo Castle in Mezzocorona, near Trento, Italy).

Also according to Lorenzo Brunetto, one of the most experienced strike-a-light collectors around, whom I had the pleasure to talk to in 2007, the classification of these items is still a highly debatable and controversial topic: considering we lack for metallographic examinations and other specific lab tests, a gap consistent - alas! - with the low regard for fire-lighting tools archaeology has held so far, a punctual dating for Middle Ages findings can hardly be defined.

Nonetheless, we can generalize and state that from Roman Times to the early 20th c. some sha-

pes have been virtually left untouched, though at least starting from the 18th c. onwards one can note a production of larger sized strike-a-lights; finger-loop types seem to have been more widespread across Eastern Europe (i.e. Bulgaria), while those provided with “curls” appear to be widely attested throughout Central Europe.

Having said that, one thing is certain: collectors must pay much attention, for many fakes are on the market! A good empirical method for identifying them is checking out the surface on the side exposed to friction, as typical wear marks are often missing on replicas.

Manual strike-a-lights functioning was made possible through briskly rubbing by a flint, already well-known as a “silex” under the Romans (this term indifferently referred to hardstones, including the ones able to produce sparks).

In addition to flint, also quartzite, jasper quartz, pyrite, marcasite were fit for purpose, as well as any stone with a higher hardness score than steel: sparks, in fact, are anything else but microscopic chips of metal, ignited by rubbing friction. A properly cut stone counts much more than its size and shape: that's why you need as many "sharp corners" as possible, made through a careful chipping action, to achieve a heavy spark ejection [4].

Just a curious aspect: it's hard to distinguish between strike-a-light flints and prehistoric "blades", as they may look quite similar to the unskilled eye. According to some scholars, this is possible only examining the marks left by the specific manufacturing process [5].

Giorgio Chelidonio, a renowned Italian authority in the field, reported that «already in 1100, strike-a-light shape appears stylized in the Bulgarian Kingdom coat of arms. Its use had apparently become a symbolic synonym for fire and 'magical' values referred to it: in medieval heraldry symbolism, in fact, one can find strike-a-light shapes»[6].

By way of demonstration, one of the heraldic emblems adopted by Federico da Montefeltro, Duke of Urbino (1422-1482), which has been interpreted by some as expression of fierce resistance against the attacks of the enemy, consists of three strike-a-lights rubbing a single flint, displaying the Latin motto «non quovis teror» («I'm consumed in no parts») [7].

Always in the matter of 15th c. examples, one can't avoid quoting the wonderful collar of the "Golden Fleece", an order of knighthood established in Bruges on January 10th, 1430 by Philip III the Good, Duke of Burgundy (1396-1467) and lasted until the domination of Asburgic Empire. The collar is formed of strike-a-lights and flints strictly linked together, with no interruption, for the total amount of thirty elements, as many as the knights of the Order.



ABOVE: an efflorescence of " typha latifolia" (swamp reed) picked up by the author, showing what inner fluff looks like.
BELOW: a sliced "fomes fomentarius" (tinder mushroom).

Duke Philip actually incorporated flint and fire-steel into his coat of arms when he ascended the throne in 1419, as well as an illustration of his motto «ante ferit quam flamma micet» («It strikes before bursting into flame»); Charles the Bold (1433-1477) just kept displaying the same emblem, which was bequeathed far beyond his death, at last becoming sort of a "national badge" of Burgundy [8].

Surveys on the outliving of surnames connected with lighting tools proved to be very intriguing: it's been ascertained that at Bregenzwald (Austria) is present a family lineage possibly da-



Heavy sparking igniting tinder, performed by the author (Photo: Andrea Carloni 2015).

ting back to at least 15th century and bearing the surname Feuerstein (= flint), together with the presence of marcasite minerals in the territory of Dornbirn. This has led to hypothesize that extractive and commercial activities developed by specialized people had later made them acquire a surname whose spelling is right the same as the goods they used to deal with [9].

Let's get down to practice now: what was the right process for lighting a fire with flints and strike-a-lights? Well, it stands to reason that just through a few sparks, you couldn't have - nor could nowadays, of course! - lit any fire directly. First of all you'd have needed to pre-ignite some sort of light, small-volume and highly inflammable stuff: this is more properly called a tinder.

Though historical sources are particularly lacking in references to this issue, I've nonetheless managed to spot a late Renaissance evidence about the use of tinder-mushrooms, specifically dried and then treated with saltpetre. In the Herbario Nuovo by Castore Durante (1585), for example, you can read the following passage: «I fonghi...che nascono ne gli arbori mantengono il fuoco cotti nella liscia, poi si asciugano, si battono, poi si ricuociono in acqua con nitro» (here follows an English translation attempt: «mushrooms... sprouting in trees keep fire when boiled in lye, then they have

to be dried, crushed and boiled again in water and saltpetre») [10].

Such mushrooms have been primarily identified as the fomes fomentarius species, a lamellar parasite of the "Polypore Family" widespread in temperate and tropical environments, which can still be found out at our latitude, from spring to fall, on the trunks of various broad-leaved trees (especially beeches and birches but also chestnuts, walnuts, ashes and willows); in addition, some quote the unguina betulina, which is parasitic on birch. The lighting tests performed with those chlorophyll-free trunk mushrooms, actually turned out to be very productive, as their inner part (called "amadou" by archaeological experimenters and "flesh" or "mycelium" by mycologists) is particularly sensitive to sparks.

Given that Durante mentioned them in the late 16th century, it's not illogical to assume tinder-mushrooms might have been used in 15th century too or even earlier, all the more so if we consider that Otzi, the world famous Similaun mummified man found in September 1991 and dating back to 3350-3100 B.C., kept in his belt-pouch a few fragments of fomentarius [11].

Through interventions of experimental archaeology, some have checked the effectiveness of

an alternative tinder, which is not attested in the sources gathered so far but proved to be of equal - if not even better - availability in nature: I'm referring to the downy efflorescence of *typha latifolia*, a very common swamp reed in Western Europe, provided with a stalk up to 2,5 mt high and a dark brown cigar-shaped "spike" on top: it reaches full maturity during summer season and, once hashed between fingers, it can be easily reduced to almost impalpable fluff, very soft and extremely...inflammable!

Although I couldn't gather specific sources concerning the Medieval and Early Renaissance period, it comes naturally to think that, apart from mushrooms and reed fluff, our ancestors might have chosen from a wide range of other tinders. We may consider plausible, for example, the use of wood powder, pine cone chips, dried grass or tow, which were used, as a matter of fact, until the Premodern Era.

Thus, while waiting for more certainty on such issues, nothing is left to do but give free rein to experiments!

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