

Historical European Martial arts in the spectrum of Martial Arts.

Part 2: The use of the buckler in different fencing treatises in the Middle Ages and the early period of early modern Europe: a scoping review of literature

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Abstract:

Introduction: Medieval and early modern sword and buckler fencing treatises of the “German” tradition or systems are often vague and incomplete. Few treatises are fully dedicated to it. Often they combine many different weapons such as grappling, dagger, one-handed or two-handed sword and pole arms. **Methods:** Scoping narrative review of medieval and the first period of the early modern age (renaissance) treatises in the “German” style of fencing, mainly Liechtenauer Tradition combining and reviewing different sword and buckler sources. **Results:** Several fencing treatises and manuscripts deal with the use of the sword and buckler, yet none of them explain the complete system. Fecht1 is the only one that is fully dedicated to the subject (100%). Others like the Liechtenauer treatises (Ms.3227a, Cod44.a.8, MS Dresd.C.487, Cod I.6.4.3°), Paulus Kal (CGM.1507, Ms.1825, Ms.KK5126), Talhoffer (Cod.icon.394a, Ms.Thott.290.2°), Durer (Ms.26-232) and others (Ms.B.26, Ms.Cl.23842, Libr.Pict.A.83, Cod.Guelf.78.2.Aug.2) vary between a ratio of less than 1% to 13% (mean= 4.6%), all lacking deep explanations sometimes even no explanations at all. Some manuscripts combine the use of the buckler with (presuming) the one-handed arming sword (Cod.44.a.8, Cod.I.6.4.3°, Cod.icon.394a, Ms.Thott.290.2°; Ms.B.26, Ms.Cl.23842, Libr.Pict.A.83, Codex Guelf.78.2.Aug.2), the messer (Cod.icon.394a, Ms.Thott.290.2°; Ms.26-232) or long-hilted sword (CGM.1507). Many of the treatises seem to be copies of each other (CGM.1507, Ms.1825 & Ms.KK5126; Ms.CL.23842 & Ms.B.26; Cod.44a8, Cod.I.6.4°3, Ms.KK5126, Ms.Dresd.C.487, Ms.E.1939.65.341 & Ms.Var. 82). **Conclusion:** Several medieval and early modern manuscripts and sources deal with the use of the sword in conjunction with the buckler yet none of them are either complete. This can be either in terms of a finished manuscript or complete in terms of technical explanations. For the interpretation and analyzation of sword and buckler fencing several manuscripts might have to be combined. More research is necessary.

Keywords – Historical European Martial Arts, Historical Fencing, Sword and buckler, Liechtenauer, Lignitzer, Leckuchner, Durer, Fecht1,

Introduction

The buckler is a small centre-gripped shield, that has been used alongside with a variety of weapons throughout history (Schmidt , 2015). Today it is used in Historical European Martial Arts (Wauters, 2021; Wauters, 2022; Wauters, 2023) with among others the arming sword, messer or falchion, which are part of the same family (Wauters, 2023; Wauters & Ter Mors, 2023). Historical European Martial Arts (HEMA) is a mix of historical martial systems in Europe. It can be compared with and seen as the European counterpart of armed and unarmed eastern martial arts (Crowther, 2007; Gevaert , 2016; Green , 2001; Wauters, 2023; Weinman, 2006). A European buckler is always centre-gripped and has a maximum diameter of 45cm with “ideal proportions” of around 35cm (Schmidt , 2015). Smaller variants do exist, some even as small that they just/barely cover the hand. Bigger than 45 cm comprehends the movement and mobility of the buckler. Larger shield than 45 cm are possible such as the targe and the migration period/Viking round shield. It can be made from wood, metal, leather, or a combination. The form of the handle can vary slightly either wooden or metal straight bar, in or outwards curved handles, or leather straps sometimes with a specific spot for the thumb to rest (thumb rest). Sometimes it can have additional features like coverings in cloth, hooks, rings, spikes et cet. The exact origin of this type of side arm is unknown. It is known that some types of bucklers were present as early as the late bronze age and iron age. It seems to have been developed in many parts of the world independently as an example of parallel evolution. There are a few theories that suggest that the buckler descends or evolved from the ancient, migration period and early medieval round shield, or that it was imported from other cultures during the age of crusades. The aspects and usage of a buckler are very specific due to its 2 main properties (centre-gripped + max 45cm in diameter) (Schmidt , 2015). Since it is centre-gripped, it has other properties than a kite shield, targe, rotella or any other shield that is strapped to the forearm, and due to its small(er) size, it is also very different from other (centre-gripped) larger shields such as the large teardrop shield, round shield, roman scutum et cet. In medieval Europe, it was used as a sidearm in a variety of combinations such as a common arming sword, messer or falchion but also with a sling, dagger, club, axe, spear or other polearms although these latter are quite rare. In early modern and renaissance Europe, it is often depicted with an arming sword, the side sword, and the longer rapier. It can be used in a duel, (civil) self-defense, war or battle, on foot or horseback.

As the Oakeshott Typology for medieval swords (Deutscher et al, 2019), the James Elmslie typology (Deutscher et al, 2019) for Messer and Falchions, the Schmidt Typology is created for the classification of the buckler (Schmidt , 2015).

There are 3 main types:

- Type I: round
- Type II rectangular or trapezoid
- Type III: oval or teardrop shaped.

with 4 subcategories according to their cross-section:

- flat
- concave
- convex
- wavelike

In present days, fencing with the “sword and buckler is a niche within HEMA but popularity is rising. Present day trainings and tournaments are held in a variety of settings (Figure 1) (Wauters, 2023) Regarding fencing and the use of the buckler, there are fencing treatises, fencing manuscripts and iconography in illuminated manuscripts. Different styles of fencing occurred at different times and places (Gevaert , 2016; Mardsen, 2016). There are the

Figure 1: Left, Sword and Buckler fencing in minimal equipment (MEF), Right Sword and buckler fencing Full equipment tournament fencing (FEF)



so-called “German styles”, “Italian styles”, “Spanish styles”, etc which differ in style, content, context, time and space but also the form, formation and function of the weapon or weapon set. Medieval fencing styles with the arming sword, Messer, falchion, or longsword are utterly different from early modern and renaissance fencing with the side sword, rapier and early modern longsword fencing styles (Gevaert , 2016; Mardsen, 2016). In the Middle Ages, bucklers are depicted in many miniatures in illuminated manuscripts in conjunction with another side arm (sword, messer or falchion or other). Before the 14th century, these images are the only way of interpreting how the buckler would be used in battle and martial arts. The first know technical fight book or Fechtbuch (ger.) to date is the Fecht1 manuscript formerly known as R.A.Ms.I.33 dates around 1320 CE. It discusses the technical use of the buckler with written text and iconography. The technical explanation is sometimes quite vague and insufficient. It is clear that the authors of Fecht1 (or many other manuals for that matter) expect minimal fencing knowledge to comprehend the technical aspects. Later manuscripts like the one in the Liechtenauer tradition (Ms.3227a, Cod.44.a.8, Cod.I.6.4.°3 and Ms.Dresd.C.487) only have a few written instructions and are not accompanied by images (Hagedorn, 2008; Hagedorn, 2017; Chidester & Hagedorn, 2021) . Some other manuscripts that incorporate iconography (like Talhoffer manuscripts, Paulus Kal manuscripts, Ms.C1.23842 and Ms.B.26) often lack descend textual instructions.

In this paper, the main focus lies on the use of the buckler in conjunction with the arming sword, (langes) messer or falchion, on foot, in the 12th to 16th century scattered around the different manuscripts. These weapons are similar in form, anatomy and function, but differ in their details such as sharpness of the short edge, curves, protrusions on the blade, lateral guard or Nagel, construction of the hilt, pommel or endcap. They also have a slightly different production mechanism but in terms of their function and usage, they can be quite similar but differ a lot in form and function compared to later side sword and rapier (Wauters & Ter Mors, 2023).

Purpose

Research in the field of Hema is rising but still very limited but necessary in historical and (sports)technical context. The purpose of this paper is to grant insight in the technical use of the buckler in conjunction with “medieval” (period 11th century-15th century) and first period of the “early modern era” (16th century) bladed, single-handed swords (arming sword, messer, or falchion).

I. Materials and methods

For this paper several manuscripts were analysed and interpreted. Since the author had no access to original manuscripts the analyzation and interpretation had to be done online by using manuscript databases or by analyzing modern publications of reprinted transcribed and translated manuscripts. Where possible or necessary the snowball research method was used or modern publications of reprinted transcribed and translated manuscripts were consulted.

The following databases were consulted:

- Online database 1: Manuscriptminiatures.com for the analyzation and interpretation of medieval iconographic in illuminated manuscripts.
- Online database 2: Wiktenauer.com for the analyzation and interpretation of fencing manuscripts and treatises

Online database ManuscriptMiniatures.com

For the analysis and interpretation of miniatures in illuminated manuscripts, the database of ManuscriptMiniatures.com was used.

The following search terms were used: “Buckler” and “buckler”.

Images were included if :

- they include a buckler in dynamic use,
- during fencing in conjunction with either an arming sword, messer or falchion,
- between the 11th and 16th century.

Images were excluded if:

- they were from the 17th century and onwards,
- did not contain any buckler in use (e.g. buckler rests on a belt)
- only contained a buckler in “peaceful” or “conflict-free” settings
- other use (mounted fencing, armoured fencing, pole weapons)
- if the iconographic was too stylised or symbolic to interpret.
- If the perspective of the icon was unclear.

Online database Wiktenauer

Medieval and early modern sources that incorporated sword and buckler were selected by using the Wiktenauer online database (www.wiktenauer.com) The following search term was used: “Buckler”.

This search term brought up several Wiktenauer pages, subpages, and category pages. Analyzation of data was done on the redirected category page “Sword and Buckler” which gave access to a list of specific authors and/or manuscripts that incorporate the use of the Buckler. Each manuscript was screened on content and availability and for some manuscripts the snowball research method was used in the reference or on the redirected pages to find other related manuscripts.

Carefully the manuscripts were selected by the inclusion criteria and analysed. Manuscripts were included if they were medieval (12th to 15th century) or from the first period early modern era (up to the end of the 16th century), included sword and buckler fencing from the “German” style. If available iconographic and textual content were analysed, interpreted and compared. Where necessary manuscripts were backed up with modern (re)prints, transcriptions and translations.

The inclusion criteria were the following:

- Fencing with the buckler,
- In conjunction with an arming sword, falchion or messer,
- 11th to late 16th century,
- “German style” of fencing.

The exclusion criteria:

- Other than German sources,
- Uncompliant content (armoured fencing, mounted fencing tournament books, war books, et cet),
- 17th century and onwards,
- Absence of technical use of the buckler.

The included manuscripts were analysed for content (buckler) both in iconography and in text. They were scanned carefully in order to extract as many technical aspects of the use of the buckler as possible.

Results

Illuminated manuscript miniatures.

The results of the illuminated manuscripts are briefly summoned in table 1. Using the ManuscriptMiniatures.com database a total of 361 hits were found. After excluding non-conflict/peaceful situation, unclear icons, to stylized or beyond content icons, a total of 93 images were included. The results are represented in table 1. Actions of the sword were not interpreted and included in the results of the study.

Often (85/93, 91.3%) only postures were depicted. In only 8 (8.60%) technical applications with the buckler itself (not an action of the sword) could be recognized. Since it involves static images without textual content or context interpreting is sometimes quite hard. 5 (5.37%) seems to be quite clear a thrust with the shield. Others were less clear. Bm.Ms.131 folio 7 verso could be a deflection or a parry. BUM.H.96 folio 63 could be either a deflection, parry, catching of the point or shield thrust and Bl Additional 47682 folio 40 could be a thrust or push with the shield.

Bm.Ms.131, Bl.Royal 2 B.VII and Bl.Stowe.17 are interesting in particular since the identified icons closely resembling iconographic content of Fecht1 (fka .Ms. I.33) manuscript and being contemporary.

All depicted bucklers are round bucklers.

Table 1: Analyzation and interpretation of miniatures in illuminated manuscripts.

Technical usage	Manuscript	
<i>Very close to body</i> <i>N=2</i>	<ul style="list-style-type: none"> • UBH Cod. Pal. germ. 848 Codex Manesse f 204r(right fencer) • BL Stowe 17 f120 (right fencer), f239 	
<i>Head protector</i> <i>N=12</i>	<ul style="list-style-type: none"> • Besançon BM MS.551 f87r • BNF Latin 10525 f45v • Beinecke MS.229 129 r, 333r • NF Français 95 f99v, 292v 	<ul style="list-style-type: none"> • BL Stowe 17 f72r 224v • BL Additional 47682 f40r • BL Additional 49622 f191r • Lyon BM MS.1351 f24v (left fencer)

<p><i>Body protector</i></p> <p><i>N=54</i></p> <p>+12+17+2+8</p>	<ul style="list-style-type: none"> • L Additional 62925 f91r • Beinecke MS.229 f262ra, 262rb, 295r, 333r, 357v • BGE Ms. fr. 190/2 f134v • Walters W.45 f82v • BNF Français 95 f32r, 42r, 292v • BUM H 196 f63v • BL Royal 20 D IV f1r • UBH Cod. Pal. germ. 848 Codex Manesse f204r • Vad 300 weltchronik f95r, 107v • BL Stowe 17 120r, 29v • Christ Church MS 92 f31r • Hab Cod. Guelf. 3. 1 Aug.2° f15r, 42r, • BAV Pal.lat.1775 f1r • BL Additional 42130 f49r, 162v 	<ul style="list-style-type: none"> • BSB Cod.gall. 16 f49v • BL Royal 2 B VII f146v, 147r, 267r • BL Additional 49622 f69r, 96r, 137v, 138v, 170r • BL Additional 42130 f49r, 162v • Tours BM MS.08 f99v • BNF Latin 10483 f105v 389r • Cod. Guelf. 3.1 Aug. 2° f15r,19v, 29v,42r • Arras BM MS.863 f114r • Morgan M.969 f282va, 282vb • Bm. Ms 131 f7v, 25ra, 317r(right fencer), 361v, 389r, 411v • WLB HB XIII 6 042r • Beinecke Ms 404 f129v, 168v • LBO CIM I 410 f34 • Lyon BM MS.1351 f24v (right fencer)
<p><i>Hand protector</i></p> <p><i>N=17</i></p>	<ul style="list-style-type: none"> • Charleville-Mèzières MS.255 Bible f276 v • Beinecke MS.229 f126 r, 209r 295r, 333r • BL Royal 10 E IV f76r; • Bodmer 147 f121r 	<ul style="list-style-type: none"> • WLB HB XIII 6 f42r, 225r, • BL Stowe 17 f45r, 89r, 225r • BL Royal 2 B VII f146v • Cod. Guelf. 3.1 Aug. 2° f21r • Bm. Ms 131 f25rb, 317r(left icon) • LBO CIM I 410 f34(right fencer)
<p><i>Other</i></p> <p><i>N=8</i></p>	<p>Thrust with the shield/schildslach</p> <ul style="list-style-type: none"> • Christ Church MS 92 De Nobilitatibus f65v • BL Additional 47682 f40r • BNF Latin 9333 f93v • Ubh cod. Pal. Germ. 848 f190v • KBR Ms. 5365 f152r 	<p>Deflection/parry</p> <ul style="list-style-type: none"> • Bm. Ms 131 f7v, <p>Deflection/Thrust catch/Schild thrust?</p> <ul style="list-style-type: none"> • BUM H 196 f63 <p>Thrust with the shield to the body/ Pusher</p> <ul style="list-style-type: none"> • BL Additional 47682 f40r (right fencer, axe wielder)

Fencing treatises and manuscripts and treatises

A total of 17 manuscripts were included. A flowchart of the protocol is depicted in figure 2. The included manuscripts and their representative percentage of sword and buckler content are represented in table 2. The general technical results are listed in table 3. This table is a brief summary and summons the techniques that were found spread across the different manuscripts. Only one example of the specific techniques per manuscript is listed in table 3. If a manuscript shows the technique more than once, it is listed with a.o. (and others). More detailed results, datasets and interpretations per fencing treatises are represented in the appendix Table 4-11.

Figure 2: Flowchart of process and protocol.

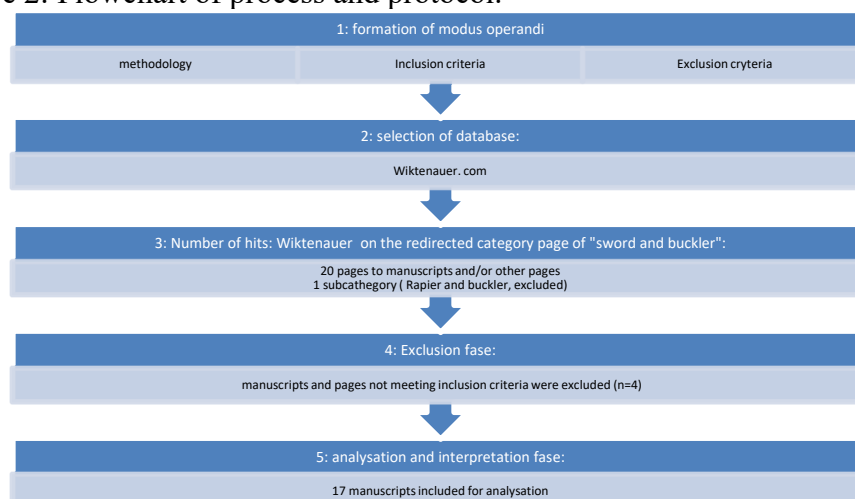


Table 2: Analyzation of included technical fencing treatises.

Nr	Name	Author	Total folios	amount	ratio
1	Fecht1 aka MS.I.33	Unknown	32 folios	32 folios	1
2	Ms. Cl. 23842	*	212	28 folios	0.132
3	MS B.26*	*	90	10 folios (20 images)	0.111
4	Codex Guelf. 78.2.Aug.2°	*	101 (109 images)	8 folios (8 images)	0.079 (0.073)
5	Ms 3227a	*	117	0.5 folio (text)	<0.01
6	Cod. 44 a 8	Lignitzer	113	2	0.014
7	Cod. .6.4°.3	*	125	1	<0.01
8	Ms. Dresd. C.487	*	126	2	0.015
-	Ms E.1939.65.341	*	-	-	-
-	Ms Var.82	*	-	-	-
9	MS KK5126	Lignitzer (Kal)	129	1	0.008
10	CGM 1507	Paulus Kal	95	5	0.052
-	MS Chart.B.1021	*	-	0	-
-	MS Gotti	*	uncomplete	-	-
11	Ms1825	*	44	3	0.068
12	MS KK5126	*	129	5	0.046
-	MS Chart.A.558***	Talhoffer	-	-	-
-	MS XIX.17-3****	*	-	-	-
13	MS 78.a.15	*	77 folios	1 folio	0.012
14	Cod.icon. 394a	*	137 folios	5 (11 images)	0.036
15	MS Thott.290.2°	*	140 folios	6 (13 images)	0.042
16	MS 26-232	Albrecht Durer	127 folios (200 images)	1 folio (1image)	<0.01
-	Cod.1246	*	-	0	-
17	Libr.Pict.A.83	*	64 folios (128 images)	6 folio (12 images)	0.091 (0.107)
				Min:	<0.01
				Max:	1
				Mean: ▲	0.046
				Median: ▲	0.039

*Part a warbook, part fight book. Only fight book part (f16r-61v) were incorporated in analysis
**Part house book, part fight book. Only fightbook parts were incorporated for analysis.
*** Warbook. Excluded
****tournament book. Excluded
▲ Fecht1 was excluded from this formula since it is an exception (ratio of 1)

Sword and buckler ratio (Sword and buckler content per total content) vary between less than 1% up to 13.2% (mean 4.6%). Only one manuscript (Fecht 1 aka R.A.Ms.I.33) has a ratio of 100%. All others, like the Liechtenauer treatises (Ms.3227a, Cod44.a.8, Ms.Dresd.C.487, Cod.I.6.4.3°), Paulus Kal (CGM.1507, Ms.1825, Ms.KK5126), Talhoffer (Cod.icon.394a, Ms.Thott. 290.2°), Durer (Ms.26-232) and some anonymous manuscripts (Ms.B.26, Ms.Cl.23842, Libr.Pict.A.83, Codex Guelf. 78.2.Aug.2) vary between a ratio of less than 1% to 13% (mean= 4.6%) of sword and buckler content.

All manuscripts lack extensive explanations. Some have little explanation (Ms.3227a, Cod44.a.8, Ms.Dresd.C.487, Cod.I.6.4.3°, Ms.KK5126, Ms.Dresd.C.487, Ms.E.1939.65.341 &MS Var. 82), some even have no explanations at all (CGM.1507, Ms.1825, Ms KK5126, Cod.icon.394a, Ms.Thott. 290.2°, Ms.B.26, Ms.Cl.23842, Libr.Pict.A.83, Codex Guelf.78.2.Aug.2). Fecht1 seems to have the most extensive explanation but even there are techniques and technicalities that are not or not deeply explained like “Nucken”, “Durchtreten”, and others.

6 manuscripts combine the use of the buckler with the one-handed sword (Cod.icon.394a, Ms.Thott. 290.2°; Ms.B.26, Ms.Cl.23842, Libr.Pict.A.83, Codex Guelf.78.2.Aug.2).

Table 3: Overall results of techniques.

Resting position:	
• Close to the body	Ms CL23842 f118; Fecht1 f1 a.o.;
• On top of the hands	Ms CL23842 f118; Ms B.26 f59 a.o.; Libr. PictA.83 f36; Fecht1 f1 a.o.;
• Extended forward	Ms CL23842 f126 a.o.; Ms B.26 f59 a.o.; Fecht1 f1 a.o.;
Physical barrier:	
• In front of the body	Ms CL23842 f124 a.o.; Ms B.26 f55 a.o.; Cgm 1507 52 a.o. , MS KK 5126 56 a.o.; Codex Guelf. 78.2.Aug.2° f113 a .o., Fecht1 f1 a.o.;
• Facing and turning towards the opponent during displacements.	Ms CL23842 f126 a.o.; Ms B.26 f55 a.o.; Codex Guelf. 78.2.Aug.2° f113 a .o., Fecht1 f10 a.o.;
Protector:	
• of the body (held in front)	Ms CL23842 f126 a.o.; Ms B.26 f59 a.o.; Libr. PictA.83 f33 a.o.; Cgm 1507 52 a.o. , MS KK 5126 56 a.o.; MS Thott.290.2° f117a.o.; Codex Guelf. 78.2.Aug.2° 113r a.o.; Fecht1 f9 a.o.;
• of the head (held above the head)	Ms CL23842 f128 a.o.; Cgm 1507 53; MS KK 5126 57; MS Thott.290.2° f117a.o.; Cod.icon.394a f117 a.o.; Codex Guelf. 78.2.Aug.2° f113 a .o., Ms Thott.290.2. f118 a.o.
• of the hands (held close to the sword hand)	Ms CL23842 f119 a.o.; Ms B.26 f59 a.o.; Libr. PictA.83 f36; Ms KK5126 f127; Cod 44a8, Cod. I. 6.4° 3, MS KK5126, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82; MS Thott.290.2° f120; Cod.icon.394a f117 a.o.; Codex Guelf. 78.2.Aug.2° f116 a .o., Fecht1 f2 a.o.; Ms Thott.290.2. f121 a.o.
Deflector or parry:	Ms CL23842 f119 a.o.; Ms B.26 f60 a.o.; Cod.icon.394a f117 a.o Ms Thott.290.2. f120 a.o.
Thrust with the shield:	
• To the buckler	Ms CL23842 f121 a.o.; Ms B.26 f54 a.o.; Libr. PictA.83 f33 a.o.; Ms Thott.290.2. f122 a.o.
• To the face	Ms B.26 f54; Libr. PictA.83 f33; MS Thott.290.2° f120; MS 78.a.15 f54; Ms Thott.290.2. f122 a.o.
• To the (sword) hand or arm	MS 78.a.15 f54;
• as a counter to the thrust with the shield	Ms CL23842 f125; Ms B.26 f54 a.o.; Ms Thott.290.2. f122 a.o.
Catching the point of the sword:	
• Stationary in Unterhengen/Phlugh or Langort	Ms CL23842 f126 a.o.; Cod.icon.394a f121;
• In the action of a thrust	Ms CL23842 f126 a.o.; Cod.icon.394a f121;
Pusher:	Ms CL23842 f127; Cod.icon.394a f119;
Binder:	Ms CL23842 f129; Ms B.26 54;

3 manuscripts combine it with the messer (Cod.icon.394a, Ms.Thott. 290.2°; Ms.26-232) and at least 1 combines it with a long-hilted sword (CGM 1507). 6 manuscripts (Cod44.a.8, Cod.I.6.4.3°, Ms.KK5126, Ms.Dresd.C.487, Ms.E.1939.65.341 & Ms.Var. 82) are unclear about the type of the sword that is used. Several earlier icons in illuminated manuscripts seems to depict the use of the buckler in conjunction with the falchion (Table1) or mounted combat. Many of the manuscripts seem to be copies of each other (CGM.1507, Ms.1825 & Ms.KK5126; Ms.Cl.23842 & Ms.B.26; Cod.44a8, Cod.I.6.4° 3, Ms.KK5126, Ms.Dresd.C.487, Ms.E.1939.65.341 & Ms.Var. 82).

Different manuscripts sometimes focus on different aspects. Generally, the following function of the buckler is found in several manuscripts. In the *resting position* either close to the body, on top of the hands or extended forward. As a *physical barrier* during fighting either in front of the body or facing and turning towards the opponent during displacements. As a *protector* of the body (held in front), the head (held above the head) or the hands (held close to the sword hand). As a *deflecting* (incoming force tangential to the buckler) or *parrying* (incoming force perpendicular to the buckler) device of either a strike, cut or thrust of the sword or an incoming thrust with the shield. A *thrust* with the shield can be done with the edge or the flat or dome and can be done either to the adversary's shield, to the (sword) hand or arm of the adversary on the

left side, right side or upwards or as a counter to the thrust with the shield delivered by the adversary. Further there is the *catching* the point of the sword or as a *pusher* during in wrestling action to the body to disrupt the adversary's equilibrium or as a *binder* in close combat to bind with the buckler to the adversary's buckler to either control it, push it aside or slide safe to the other side. A more detailed recital can be found in table. Not all techniques are represented evenly. The catching of the point is only depicted twice (Ms.Cl.23842 f126; Cod.Icon.394a f121r) whereas the thrust with the shield to the face is depicted 3 times (Libr.pict.a.83 f33vb; MS.Thott.290.2° f120r,122v) and to the buckler at least x times over several manuscripts (MS.Thott.290.2°, Ms.Cl.23842, Ms.B.26, Fecht1).

Discussion

To our knowledge this is the first research that reviews the use of the buckler in such an elaborate way, across different manuscripts. Regarding sword and buckler fencing, there are only a few reliable early sources that can be found from the 12th to the end of the 16th century. Even fewer images in illuminated manuscripts were available for interpretation. Images are always difficult to interpret since they are a 2d representation of 3d situations and interpreting perspective or symbolism can be challenging.

The first source that elucidates the use of the buckler in a technical manner is the Fecht1 fka R.A.Ms.I.33, is created in the 14th century, around 1320 (Forgeng, 2018; Gevaert, 2016; Schmidt, 2015). It is also known to date as the earliest written source about the technical use of medieval fencing in general. Earlier sources from **illuminated manuscripts** lack context and content. There are many icons in illuminated manuscripts of the use of the buckler in combination with several different weapons and weapon sets, yet they lack any explanation and interpretation of these icons must be done with care. Often the buckler is depicted in a “non-conflict” or peaceful situation or context which does not allow us to interpret any combat or fencing relating context. These results suggest that in “context” or “conflict situations” the buckler in the iconography of illuminated manuscript is often used as a physical barrier between the wielder and his adversary, used as a hand, body or head protector. Rarely more complex techniques are displayed and quite often depict a thrust with the shield. Other technical applications are difficult to interpret due to the lack of context. Several illuminated manuscripts such as Bm.Ms.131, Bl.Royal 2 B.VII and Bl.Stowe17 that contain specific sword and buckler fencing content, predate or are contemporary to Fecht1 so one can assume the technical aspects of sword and buckler fencing predates this but technical explanation before this date are lacking (Forgeng, 2018; Offenber, 2018). Textual and conceptual interpretation always has to be made with care and with the mindset of the given time period (Jaquet & Walczak, 2015; Jaquet et al, 2015). There are several reasons why only the postures and positions are depicted. It can be either for practical reasons static actions are easier to draw, needs less 3d perspective, symbolism or simply the skills and knowledge of the artis are limited.

In **Fecht1**, formerly known as R.A.MS.I.33, the use of the buckler is enlightened elaborately. It is a very elaborate manuscript in terms of depicting sword and buckler swordsmanship. It is the only manuscript within the selected criteria that is completely dedicated to sword and buckler fencing. Almost every drawing has a few lines of text that elucidates the drawings and images. However, these texts are often quite obscure or vague and do not explain the given techniques into detail. “Durchtreten” and “Nucken” for instance are mentioned but not explained (Forgeng, 2018). Regarding the images, it might, although this is not certain that there are sometimes 2 different perspectives shown in the drawings since incorporating 3d actions on a 2d surface can be challenging. One theory suggest that the display of the sword action is in viewing perspective of the fencer/drawing and the body and body mechanics in perspective of the viewer. The buckler

might be in either perspective, depending on the action. This way of giving perspective is also known in other manuscripts such as Beinecke MS.229 folio 66v, BM.Ms.142 folio 153v, UBH Cod.Pal.germ.848, Cod.Manesse folio 13r, UBK 2° Ms.poet.et roman.1 Willehalm-Kodex folio 25r and BNF Français 12577 folio 149v, depicting chess boards horizontally and levitating. Further, these results suggest that the manuscript shows several ways of positioning the buckler (close to the body, on the hands, in front of the body) in several resting positions or in order to use its protective properties and to function as a physical barrier between the wielder and the adversary. Further there is the thrust with the shield ("schildslach") which is quite omnipresent in the manuscript, which seems to be only done with the flat or dome of the buckler. Other manuscripts (such as Ms.Cl.23842, Ms.B.26, and Ms.Thott.290.2°) also display this technique but do not name it, and it varies between thrust with the edge or flat. There are several ways depicted of how to perform the schildslach, as well as how to counter it. The technique can be used in order to control someone's buckler or weapon set, or as a counter to the schildslach itself. Further, the buckler is used as a deflector or parrying device of thrusts and cuts. In a deflection the incoming force tangential to the buckler, in a parry the incoming force rather perpendicular to the buckler, resulting in more impact force. Without explanation it is impossible to know whether an icon or an image shows a deflection or a parry. Further it is explained how to work around and bypass the buckler with the Nucken and several other techniques. It is remarkable that, in contrast to other manuscripts like Ms.Cl.23842 (f126r), Cod.Icon.394a (f117r) and Cod.Guelf.78.2. Aug.2° (f114r-115r) the buckler is never held solo above the head in order to protect the head while doing other actions with the sword. Further, deflecting cuts of thrusts with the buckler does not seem to be present in the manuscript as seen in Ms.Cl.23842 (f119), Ms.B.26 (f60), Ms.Thott.290.2. (f120) and Cod.icon.394a (f117). This is remarkable since all other postures and features are indeed present in Fecht1. Some illuminated manuscripts (Bm. Ms.131, BL Royal 2 B VII, and BL Stowe 17) contain images that very much resemble technical applications of Fecht1 as well as Libr.Pict.A.84, Ms.Cl.23842 and Ms.B.26. Neither of these 3 latter can be linked directly to Fecht1 ("Cluney Fechtbuch Cl 23842", 2023; "Eyb Kriegsbuch MS B.26", 2023; "Berlin Picture Book Libr.Pict.A.83", 2023) but the similarities in posture and techniques like the thrust of the shield are quite comparable. Libr.Pict.A.84, Ms.Cl.23842 are by context and content related to the Liechtenauer tradition though by their swordplay and wrestling actions. This might suggest that, although there might not be a lineage link between Fecht1 and Liechtenauer, there might be a similarity in techniques, but this theory is up for debate.

Within the **Liechtenauer** treatises, there are many different manuscripts. The most famous ones are Ms.3227a aka Pseudo-Dobringer (Chidester & Hagedorn, 2021), Cod.44.a.8 aka Pseudo-Von Danzig (Hagedorn, 2008), Cod.I.6.4°.3 aka Pseudo-Lew Jude (Hagedorn, 2017), Ms.Dresd.C.487 aka Pseudo-Ringeck ("Ms Dresd.c.487", 2023), Ms.M.I.29 aka Codex Speyer ("Codex Speyer", 2023) but others are linked as well such as Talhoffer and Paulus Kal. Within these manuscripts resemble each other and several parts of several different manuscripts are copied, added, edited, shifted or left out. Also, Leckuchnern (Forgeng, 2015) and Durer (Hagedorn, 2017) are quite clearly influenced by the teachings of Liechtenauer. Further there are a few lesser-known manuscripts such as Libr.Pict.A.83, Ms.Cl.23842 that also might be linked. Ms.B.26 has an uncertain link to Liechtenauer and might be linked to the Blume des kampfes and Fiore de'i liberi. Libr.Pict.A.83, and Ms.Cl.23842 can be linked to the Liechtenauer treatise since they depict comparable techniques and swordplay with the Longsword and wrestling actions with the sword (ringen am schwert) used in the Liechtenauer tradition and explained in the main treatises (Ms.3227a, Cod.44.a.8, Cod.I.6.4°.3, Ms.Dresd.C.487). Furthermore, Ms.Cl.23842 folio 130r shows a disarm technique of the that is also mentioned in the same way as the Lignitzer teachings (play 6, Cod.44.a.8 folio 80v & Ms.Dresd.C.487 folio 55v). The same technique seems to be suggested in Paulus Kals Ms.KK5126 on folio 60r. Regarding the Liechtenauer System, sword and buckler fencing is clarified by **Lignitzer** by the means of 6

plays spread across several manuscripts. There are 5 plays in MS KK5126 (P.Kal, play 1-6, with the absence of play 4), 6 in Cod.44a8 and Ms Dresd.C.487 (both play 1-6, 1.4% and 1.5%), and 3 plays in Cod. I.6.4^o.3(play1-3, <1%). Often, they are quite exact copies of the text within these manuscripts only with minor insignificant changes. This is also concluded by other researchers (Jaquet & Walczak, 2015) . These plays are short instructions and explanations about the use of the weapon set. In terms of specific use of the buckler, the instructions stay rather vague. Rarely the position of the buckler, movement of the buckler or function of the buckler is explained. Same can be said about the use of the sword. However, the terminology that is used is quite clear the same that is used for the other weapons in the Liechtenauer System, like the Longsword and even in the use of the Spear. The texts mention the Oberhaw, the Unterhaw, the Twer/Zwerghaw, the Wechselhaw, Streichen, and Winden. Reading between the lines one can see the use of the Vor, Nach, Indes, Durchwechsel, Ausermyn, Duplieren, Absetzen, and other related techniques (Hagedorn, 2017; Hagedorn, 2008). This suggest that the Arming sword-use can be, with obviously some adaptations regarding to the lengths of the weapons, the same as in the Longsword. So, although the Lignitzer plays are rather limited in content, detail and explanation, its value lies within the link to the systematic use of the weapons in the Liechtenauer System making it therefore much more elaborate. Other authors and manuscripts such as these of **Leckuchner** (Forgeng, 2015), **Durer** (Hagedorn, 2021), and **Speyer** ("Codex Speyer", 2023) confirm this theorem. These manuscripts are also focussing on one-handed swords (without the conjunction a a buckler), thus offer the a lot of value to sword and buckler fencing too. These latter clearly show that the techniques of the Liechtenauer Longsword System, with some adaptations can be used on one-handed weapons such as the arming sword, messer and falchion. Durer on his hand shows a picture of a Messer and wooden buckler but does not give any explanation or instruction whatsoever on it.

Paulus Kals manuscripts contain several images (ratios: Cgm 1507=5.2%, Ms.KK 5126 = 5.4% and Ms.1825 = 6.8%) of sword and buckler fencing but lack explanations. Several images in different manuscripts are quite exact copies of each other. Although they lack text and context, they ichnographically are more elaborate. There are the position of the buckler (close to the body or far away from the body), deflecting or parrying of blows and wrestling actions but it lacks techniques such as the thrust with the shield to the buckler or catching of the point of the adversaries sword. Further Ms.KK 5126 contains 5 plays of Lignitzer teachings, It seems the fourth play is missing, the fifth is named the fourth, and the sixed play is named the fifth. Further Ms.KK5126 folio 60r contains an image if what is presumably the ending posture of the 6th play of Lignitzer, being a disarm technique of the buckler (Hagedorn, 2017; "CGM 1507", 2023; "Ms 1825", 2023; "Ms KK5126", 2023).

Codex Guelf.78.2.Aug.2^o is a manuscript that consist of multiple weapons including sword and buckler fencing with elaborated drawings. It is assumed to be unfinished since it lacks text and context. Although it has a quite acceptable ratio of sword and buckler techniques in the manuscript (7.2%), the amount of technical content and diversity is rather limited and does not offer a lot of variation and insights in the use of the one-handed sword in conjunction with the buckler. It depicts the positioning of the buckler in Zufechten, either close to the body as resting position or forward facing as body protector, and a hands, head or body protector during actions with the sword. More complex technical applications are not depicted ("Cod. Guelf. 78. 2 Aug. 2", 2023).

Libr. Pict.A.83 is a manuscript from an unknown client but presumably by the workshop and/or hands of Albrecht Durer. As many other manuscripts it contains a combination of techniques for dagger, one-handed sword/Messer, longsword fencing and armoured fencing. The technical plays are comparable to those of the Liechtenauer System and seen in the main

Liechtenauer treatises. Further it contains content of Talhoffer, so a link with the Liechtenauer system can be made in several ways. The sword and buckler plays (postures and technical play) also resemble the Fecht1 manuscript which might suggest that, although Fecht1 and Liechtenauer are not related by lineage, they might be related in a technical way. Libr.PictA.83 contains 12 images of sword and buckler fencing on a total of 128 (ratio 9.4%). Since the manuscript lacks text and explanation interpretation can only be done by the analyzing the images. This manuscript does some insight in the use of the buckler but not profound. At least 5 images are not specific buckler techniques like wrestling actions. Further the thrust with the shield is demonstrated to the body/face as well as to the buckler in different situations such as during little resistance in the bind, strong resistance in the bind and after a disarm of the sword. Further it shows the protective function of the buckler during Zufechten and resting faces and how to grab both the sword and the buckler in one hand to use the other free hand in disarm actions or wrestling action. The gripping of both weapons in one hand to use the other free hand is also seen in the 6th play of Lignitzer (Cod.44.a08 & Ms.Dresd.C.478), Ms.Cl.23842 (f130r) and Fecht1 (f22rb) but in different contexts and the image in Libr.Pict.A.84 is more detailed ("Berlin Picture Book Libr.Pict.A.83", 2023).

Ms.Cl.23842 (13%) and **Ms.B.26** (11%) both have the highest ratio and highest absolute amount of sword and buckler content. They are two different manuscripts, but they are very much alike. Both manuscripts deal with multiple weapons, including arming sword and buckler but have a relative high ratio of sword and buckler content. Yet they lack any form of text in their buckler sections and are from an unknown author and illustrator. In terms of images, the two manuscripts are very much alike. Although the style of drawing and portraying is entirely different, some images of Ms.B.26 are exact copies of Ms.Cl.23842 in terms of composition. Ms.Cl.23842 is the more elaborate one of the two containing more technical applications, positions and uses such as the parrying function to cuts and thrust, the catching of the point with the buckler, the pushing function, the protective function of the head, hands or body, the thrust with the shield to different sides and body parts, the physical barrier function et cet. Therefore, although it lacks any textual guidance, the high ratio and high absolute amount of sword and buckler content make them highly valuable and their value as an available source has to be recognized ("Eyb Kriegsbuch MS B.26", 2023; "Cluney Fechtbuch Cl 23842" , 2023).

In the **Talhoffer** teachings only Cod.icon.394a and MS Thott.290.2° could be interpreted. Talhoffer treatises, as seen in the other manuscripts of other authors, mix a variety of weapons including longsword, spear, single messer and arming sword, and messer and arming sword in conjunction with a Buckler. In Cod.icon.394a and Ms.Thott.290.2° the use of the sword and buckler and messer and buckler are depicted elaborately yet the total amount and ratio compared to the entire manuscripts are rather low (Cod.icon.394a (3.6%) and Ms.Thott.290.2° (4.2%)). Nevertheless, there are many different technical applications, tactics, uses and postures. Regarding the protective function, it shows images wherein the buckler is used to protect the head, hands, or body. The buckler is also used as a pusher in wrestling, or to thrust with to different parts of the body, to the opponent's buckler or as a counter to the thrust with the shield. It possibly also shows a few techniques about how to get around and bypass the buckler of the adversary, but neither the textual explanations as the images are clear on that so this is up for debate. Despite the limited amount of text its images and depictions are of high quality and value for the interpretation of the use of the Buckler in conjunction with either the arming sword or the Messer. Ms.Chart.A.558 does not contain any reference to the sword and buckler whatsoever, but contains the textual teachings of the Liechtenauer Zetels, so a clear link with the system is obvious. MS.XIX. 17-3 does not contain any image of the use of the sword and buckler, and it serves another purpose than the other manuscripts. Ms.78.a.15 contains 2 images of the use of the sword with the buckler on 1 page but it lacks descent information and context ("Talhoffer",

2023; "Ms XIX.17-3", 2023; "Ms Thott.290.2°", 2023; "Ms Chart.A.558", 2023; "Cod.Icon.394a", 2023).

In general, many later period treatises (14th to late 16th century) like those of Talhoffer, Paulus Kal, Durer, Liechtenauer (Ms.3227a, Cod.44.a.8, Cod.I.6.4°.3, Ms.Dresd.C.487), Ms.Cl.23842 and Ms.B.26 combine different weapons and weapon sets like the longsword, dagger, wrestling, spear, mounted combat, armored fencing, the single messer/sword and sword with buckler. Each topic often has its own chapter or section. Sometimes manuscripts are based on or originated by an earlier or other manuscripts and subtle changes may occur in the copying process (Jaquet & Walczak, 2015). Often sword and buckler fencing is only a small part of the complete manuscript, sometimes even less than 1% or to max of 13%. In the Liechtenauer treatises and manuscripts sword and buckler fencing is explained by Lignitzer teachings with a max of only 5 plays in Ms.KK5126 (0.8%), 6 plays in Cod.44.a.8 (1.4%) and Ms.Dresd.C.487 (1.5%), 3 plays in Cod.I.6.4°.3(less than 1%). Ms.3227a (Dobringer) only have a few lines (less than 1%) where the chapter is started but not completed and Ms.26-232 (Durer) only has one picture (less than 1%) lacking any text or explanation. These manuscripts though all use Liechtenauer Longsword terminology suggesting that the techniques of the Liechtenauer Longsword System could indeed be used for sword and buckler as well, yet these treatises lack any depictions. Same counts for the Paulus Kal (4.6-6.8%) and Talhoffer (3.6-4.2%) treatises, Ms.Cl. 23842 (13%) and Ms.B.26(11%) where the onehanded sword and buckler are only a small part of the manuscript and lack descent textual context and explanations. Yet these later manuscripts offer a very broad insight in the use of the buckler since they contain pictures and images about the use of the buckler with a variety of techniques.

Regarding the form of the bucklers, in earlier **illuminated manuscript** icons, the bucklers are (according to these results) always round bucklers although other types are known have been contemporary existed. Why these images only show round bucklers might be the results of publication bias of the used database (ManuscriptMiniatures.com). In the fencing treatises, the buckler that are displayed are quite often type I round bucklers (Fecht1, Ms.Cl.23842, Ms.B.26. and, Cod.Guelf.78.2.Aug.2°) but other types of bucklers are possible as well (Paulus Kal, face-shaped; Ms.Thott.290.2°, teardrop-shaped with spikes; Cod.I.6.4.°2, square-convex; Cod.Guelf.78.2.Aug.2°, armored fencing buckler as seen in other works of Gladiatoria/armored fencing). Later sources (2nd half of the 16th century and onwards) tent to combine the buckler with the side sword or rapier and the shape of the buckler seems to change as well to a squarish form but variations are possible.

For the **general use** of the buckler in medieval and the early period of early modern swordsmanship, none of the included manuscripts can give full insight. For general technicalities and techniques several sources have to be combined and compared, giving the following options: Bucklers have a certain weight and keeping them extended, in use or in movement for a long period of time can be tiring for the arm and body. It is therefore wise to save energy during fencing by the use of resting poses, postures or positions. So, the resting positions in Zufechten and far distances can be either close to the body, to reduce the moment and the leverage of the weight relatively to the arm muscles, shoulder muscles and neck muscles, or by supporting it on the sword hand to distribute the weight to both arms to conserve energy. At the same time this provides the protective effect (function as protective devise) to the hands. Further, in and out fighting distance, the buckler can be used as a physical barrier between the fencer and his adversary. This barrier first has to be overcome, worked around or bypassed before the adversary can enter, hit or injure the fencer. Therefore, it can also serve as a protective devise that can be placed in between the wielder and its adversary at any given time to protect the body of the wielder (held in an extended position) the hands (placed on top or near the hands) or the head

(held above the head) during actions or reactions of either the fencer or its adversary such as incoming cuts or thrusts or for catching and controlling the point of the adversary's sword. It can be used as a parrying (in coming force of the buckler perpendicular to the buckler) or deflecting device (incoming force of the buckler tangential to the buckler) in order to block incoming attacks by the adversary and to follow up safely and unharmed by the wielder. In case of wooden bucklers, it is possible to catch the point of the sword with the buckler. The point will get stuck in the wood, and this gives the possibility to control the opponent's weapon and/or push it to the side. The buckler can also be used to thrust with (Schildslach) either to the body, head, hand, arm or to the buckler in order to control it, pin it (pinner), block it, or damage it. During wrestling actions, it can also be used as a pusher, to push the opponent and disrupt his balance in order to disrupt its actions or wrestle with it and throw it.

Limitations

Of course, as any research, there are limitations. By our knowledge, the Wiktenauer database is quite up to date, but manuscripts that are not available on the database or that are not uploaded or given free cannot be interpreted. Further, MedievalManuscripts.com publishes certain icons. When icons do not reach the database they can not be published. Therefore this database is prone for publication bias. Thirdly, the fact that icons of illuminated manuscripts or some fencing treatises do not contain any textual context and content, makes interpretation sometimes an educated guess, although combining these textless and contextless manuscripts with others that actually have textual references and/or context and content can give a higher chance of successfully interpreting the textless manuscripts.

Conclusion

The search and journey in the world of sources dealing about the use of sword and buckler swordsmanship in the Middle Ages can be a tricky and exhausting thing. Early sources (prior to the 13th century) are mainly illuminated manuscripts that lack any form of text or instructions and are not always reliable to interpret in terms of their technical use. Mainly postures are depicted. This might have several reasons. This can be either a deliberate choice (it is easier to depict static postures) or symbolic. Icons can be used for the interpretation but only limited since they contain no textual content and are limited by the knowledge and skills of the drawer and the goal of their creation (informative, symbolic, esthetic, ...).

Early (prior to the 13th century) written technical or iconographical technical manuals and fencing treatises simply do not exist, are lost, or have yet to be found. Sources from the late Middle Ages and early modern period (13th to 16th century) containing profound explanation of the use of the sword and buckler are scarce and some are copies of each other. There are several fencing treatises and sources available dealing with this type of fencing, often lacking either iconography or textual guidelines. None of them tell the full story. Later sources in the early modern and modern period (2nd half of the 16th century and onwards) are more elaborate but often the buckler is combined with a side sword or longer rapier.

Illuminated manuscripts can be useful in the interpretation of sword and buckler fencing but their context and content is very limited and therefore so is their value in this topic.

The Liechtenauer teachings are limited in their sword and buckler content but, combined with Leckuchner and Durer teachings they are highly valuable for their sword related techniques, but they give few insights into the specific use of the Buckler.

Talhoffer teachings, Paulus Kal teachings, Ms.C1.23842 and Ms.B.26 are highly valuable

for their buckler content in terms of iconographic and images, even though they lack deep explanation. Combining these manuscripts can give valuable insights into the use of sword and buckler.

Fecht1 (fka R.A.Ms.I.33) is the most elaborate fencing treatise regarding the content but several techniques or technicalities are not explained.

It seems that for the interpretation of this type of fencing treatises a descend background knowledge is mandatory.

Generally, the usages and functions of the buckler can be recognized spread across different manuscripts. More research on the topic is necessary.

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Appendices: Dataset

Table 4: Ms.Cl.23842 (anonym manuscript)

Folio	Technical explanation and interpretation	
118 r	Protector of the hand (Left fencer) and protector of the body (right fencer)	
118v	Protector of the body (left fencer) and protector of the hand (right fencer)	
119r	Deflector: this image seems to represent an uberlaufen while using the buckler as a hand protector (left fencer) action with a deflection of the incoming strike (right fencer)	
119v	Possible a thrust to Langort with the buckler used as a hand protector (left fencer) countered by a thrust with the shield and thrust from Oberhangen by the right fencer.	
120r	Possible a thrust to Langort with the buckler used as a hand protector (left fencer) countered by a thrust with the shield and cut by the right fencer.	
120 v	Possible an thrust to Langort with the buckler used as a hand protector (left fencer) countered by a thrust with the shield and cut to the body by the right fencer.	
121 r	Thrust with the shield to the buckler (left fencer). Action of right fencer is unclear. Possible a starting or retreating action to an underarm pose.	
121v	Uncompleted action: possible an Overbind or Versetzen with the buckler used as hand protection (right fencer) followed up by yielding of resistance of the sword(hand) and intended thrust with the shield (target of thrust with the shield is unclear)	
122r	unclear action: possible an Oberhau with the buckler used as hand protection (right fencer) countered using the buckler as deflector of the strike and cut to the head (left fencer)	
122v	Unclear action: possible a cut to the buckler arm (right fencer) after a separation of the buckler and sword, either intended by the right fencer (Nucken like action), or unintended but with a buckler extended forward as body protection, or after an intended thrust with the shield by the left fencer.	
123r	Unclear action: possible a cut to the buckler arm (right fencer) after a separation of the buckler and sword, either intended by the right fencer (Nucken like action) or after an intended thrust with the shield by the left fencer.	
123v	Unclear action: use of the buckler as hand protection (left fencer) and resting position of the buckler close to the body (right fencer)	
124r	creating a physical barrier (Left and right fencer) action or counterreaction of right fencer with a cut to the sword arm/elbow or thrust. Possible from Lower Hängen (either left or right) or to Langort	
124v	Unclear action: creating a physical barrier (left fencer). Possible a cut to the buckler arm after a hesitation of the left fencer while using the buckler as hand protector (right fencer)	
125r	unclear action: possible a cut to the buckler arm (right fencer) after a separation of the buckler and sword, either intended by the right fencer (Nucken like action), after an intended thrust with the shield by the left fencer, or after an umschlag- like action of the left fencer.	
125v	Thrust with the shield as a counter to the thrust with the shield of the adversary (left and right fencer)	
126r	Buckler used as body protector during cutting or catching of the point of the sword (right fencer) and used as a deflector of the cut and/or head protector (left fencer)	
126v	Unclear action: possible a thrust with the shield to the hand (right fencer) after hooking of the sword behind the hand of the adversary.	
127r	Thrust with the shield after an umshalg or abloufen like action or hooking action, possibly while pushing with the buckler (left fencer)	
127v	Pushing with the buckler in a wrestling action (left fencer)	
128r	Use of the buckler as a body and/or head protector (left and right fencer) possible after thrust with the shield or shield contact	
128v	Use of the buckler as a body and/or head protector (left and right fencer) possible after with the shield or shield contact: it is possible 128 v follows up 128r and then it can be a sliding motion on the surface of the buckler by the right fencer but this is unclear.	
129r	Use of the buckler as binder and/or body protector. While working around the buckler with the sword (left and right fencer)	
129v	Use of the buckler as body or head protector while working cutting to the legs (left fencer) it is unclear whether this is an initiating action by the left fencer, or a counter to the right fencers action.	
130r	Disarming of the buckler (left fencer)	
130v	Wrestling action/ Ubergreifen, not buckler specific (left fencer)	
131r	Possible a thrust with the shield to the sword, deflection of the sword or head/body protection by the buckler.	
131v	wrestling action/ reversed hip throw, not buckler specific (left fencer)	
Synopsis	<p>Resting position:</p> <ul style="list-style-type: none"> • Close to the body • On top of the hands • Extended forward <p>Physical barrier in Zufechten</p> <ul style="list-style-type: none"> • In front of the body • Facing and turning towards the opponent during displacements. <p>Protector:</p> <ul style="list-style-type: none"> • Protector of the body (held in front) • Protector of the head (held above the head) • Protector of the hands (held close to the sword hand) <p>Deflector or parry (without deflecting the strike)</p> <ul style="list-style-type: none"> • of a strike, cut or thrust of the sword • of an incoming thrust with the shield <p>Thrust with the shield:</p>	<ul style="list-style-type: none"> • To the buckler • To the (sword) hand or arm • Left side, right side or upwards • Thrust with the shield as a counter to the thrust with the shield <p>Catching the point of the sword</p> <ul style="list-style-type: none"> • Stationary in Unterhangen/Phlugh or Langort • In the action of a thrust <p>Pusher: while in wrestling action pushing with the buckler to the body to create a disruption of the adversaries equilibrium.</p> <p>Binder: in close combat it can be used to bind with the buckler to the adversaries buckler in order to:</p> <ul style="list-style-type: none"> • Control it • Push it aside • Slide safe to the other side
Disclaimer	This manuscript does not have any textual guidelines. Interpretation has to be considered within this limitation.	

Table 5: Ms.B.26 (anonym manuscript)

Folio	Technical explanation and interpretation
54ra	Thrust with the shield as a counter to the thrust with the shield (left and right fencer) to the head (left fencer)
54rb	Thrust with the shield (left fencer) to the buckler possible after hesitation or retreat of the right fencer
54va	Use of the buckler as a body protector (left fencer) and hand protector (right fencer) possible a binder to the sword or Nucken like action (left fencer)
54vb	Ringen action. Not specific buckler related.
55ra	Unclear action: possible a cut to the buckler arm (right fencer) after a separation of the buckler and sword, either intended by the right fencer (Nucken like action) or after an intended thrust with the shield by the left fencer.
55rb	Creating a physical barrier (Left and right fencer) action or counterreaction of right fencer with a cut to the sword arm/elbow or thrust. Possible from Lower Hängen (either left or right) or to Langort
55va	Unclear action: creating a physical barrier (left fencer). Possible a cut to the buckler arm after a hesitation of the left fencer while using the buckler as hand protector (right fencer)
55vb	Unclear action: possible a cut to the buckler arm (right fencer) after a separation of the buckler and sword, either intended by the right fencer (Nucken like action), after an intended thrust with the shield by the left fencer, or after an umshag- like action of the left fencer
56r- 58v	Blank or unrelated drawings.
59ra	Buckler used as hand protector (right fencer)
59rb	Hand protector during sword action (left fencer) body protection or deflection of the adversarys action (right fencer)
59va	Unclear action: use of the buckler as hand protection (left fencer) and resting position of the buckler close to the body (right fencer)
59vb	Body protection (left fencer), hand protection (right fencer)
60ra	Hand protection during sword action (left fencer) deflection or body protection as reaction op adversarys action with a cut or thrust to the leg or lower torso (right fencer)
60rb	Hand protection during sword action (left fencer) deflection or body protection as reaction op adversarys action with a thrust from Oberhangen (right fencer)
60va	Hand protection during sword action (left fencer) deflection or thrust with the shield as reaction op adversarys action with a cut, possible a Sturzau (Lignitzer/Talhofer) or Wecker (Leckuchner) (right fencer) but this is not clear
60vb	Hand protection during sword action (left fencer) Counter action with thrust with the shield as reaction op adversarys action with a cut, possible a Sturzau (Lignitzer/Talhofer) or Wecker (Leckuchner) (right fencer) but this is not clear
61ra	Thrust with the shield to the buckler (left fencer). Action of right fencer is unclear. Possible a starting or retreating action to an underarm pose.
61rb	Uncompleted action: possible an overbind or Versetzen with the buckler used as hand protection (right fencer) followed up by yielding of resistance of the sword(hand) and intended thrust with the shield (target of thrust with the shield is unclear)
61va	Unclear action: possible an Oberhau with the buckler used as hand protection (right fencer) countered by the use of the buckler as deflector of the strike and cut to the head (left fencer)
61vb	Unclear action: possible a cut to the buckler arm (right fencer) after a separation of the buckler and sword, either intended by the right fencer (Nucken like action) or after an intended thrust with the shield by the left fencer.
Synopsis	<p>Resting position:</p> <ul style="list-style-type: none"> • Close to the body • On top of the hands • Extended forward <p>Physical barrier in Zufechten</p> <ul style="list-style-type: none"> • In front of the body • Facing and turning towards the opponent during displacements. <p>Protector:</p> <ul style="list-style-type: none"> • Protector of the body (held in front) • Protector of the head (held above the head) • Protector of the hands (held close to the sword hand) <p>Deflector or parry (without deflecting the strike)</p> <ul style="list-style-type: none"> • of a strike, cut or thrust of the sword • of an incoming thrust with the shield <p>Thrust with the shield:</p> <ul style="list-style-type: none"> • To the buckler • To the (sword) hand or arm • To the head • Left side, right side or upwards • Thrust with the shield as a counter to the thrust with the shield
Disclaimer	This manuscript does not have any textual guidelines in the Sword and Buckler section. Interpretation has to be considered within this limitation.

Table 6: Albrecht Durers manuscripts

Manuscript	Technical explanation
Ms.26-232	
85r	Protector of the body In conjunction with the messer. This is the only image in the manuscript of the use of a buckler. It seems to be a wore out wooden square buckler slightly convex, Type ...
Libr. Pict.A.83 Folio	
33ra	Use as a body protector (left fencer) and hand protection (right fencer)
33rb	Thrust with the shield (left fencer) after a disarm by right fencer
33va	Kick (left fencer) after the disarm of the adversary. Not buckler specific
33vb	Thrust with the shield (left fencer) to the face of the adversary, after what seems to be strong blade bind created by the adversary.
34ra	Disarm technique. Not buckler specific.
34rb	Ringen/wrestling action. Not buckler specific
34va	Disarm technique. Not buckler specific
34vb	Ringen/wrestling action. Not buckler specific
35ra	Thrust with the shield (left fencer) to the buckler of the adversary. Followed up by what seems to be a Twerhauw Sturzhaw
35rb	Gaining of the centerline and overpowering of the bind. Buckler used as hand protection
35v	Blanck
36ra	Buckler used as hand protection during actions of the sword (right fencer, Ansetzen in Liechtenauer System (?)) and possible in reasting position (right fencer)
36rb	Perspective of the right fencer is unclear. Thrust with the shied or deflecion of the sword (left fencer).
Disclaimer	This manuscript does not have any textual guidelines in the Sword and Buckler section. Interpretation has to be considered within this limitation.

Table 7: Paulus Kal manuscripts

Manuscript and Folio	Technical explanation and interpretation	
Cgm 1507 52v & MS KK 5126 56v	Use of the buckler as body protector (left fencer) and head protector (right fencer) in conjunction with swords with rather long grips	
Cgm 1507 53r & MS KK 5126 57r	Use of the buckler as body protector (left fencer)	
Cgm 1507 53v & MS KK 5126 57v	Use of the buckler as head protector and/or deflector (right fencer) with a follow up cut to the leg.	
Cgm 1507 54r & MS KK 5126 58r	Follow up action of the previous image (Cgm 1507 53v & MS KK 5126 57v) by left fencer, a parry with the sword. The buckler is used head protector and/or body protector (left and right fencer).	
Cgm 1507 54v & MS KK 5126 58v	Cut to the head (right fencer) is parried with the buckler, used as a deflector (left fencer) with a follow up thrust to the breast.	
Cgm 1507 55r & MS KK 5126 59r & MS 1825 15r	Hooking with the pommel. Not buckler specific.	
Cgm 1507 55v & MS KK 5126 59v & MS 1825 15v	Use of the buckler as a head protector or deflector/ parry of a strike combined with the disarm of the buckler (right fencer).	
Cgm 1507 56r & MS KK 5126 60r & MS 1825 16r	Follow up of previous image. Use of the buckler as a head protector or deflector/ parry of a strike combined with the disarm of the buckler (right fencer).	
Cgm 1507 56v & MS KK 5126 60v & MS 1825 16v	Wrapping with the buckler arm around the sword arm of the adversary In order to control it and cut with the sword (right fencer). Deflecting or parrying with the buckler, used as head protector (left fencer).	
Cgm 1507 57r & MS KK 5126 61r & MS 1825 17r	Wrestling action. Not buckler specific.	
Synopsis	Resting position: <ul style="list-style-type: none"> • Close to the body • On top of the hands • Extended forward Physical barrier in Zufechten <ul style="list-style-type: none"> • In front of the body • Facing and turning towards the opponent during displacements. 	Protector: <ul style="list-style-type: none"> • Protector of the body (held in front) • Protector of the head (held above the head) • Protector of the hands (held close to the sword hand) Deflector or parry (without deflecting the strike) <ul style="list-style-type: none"> • Of a strike, cut or thrust of the sword • Of an incoming thrust with the shield
Disclaimer	This manuscript is not have any textual guidelines in the Sword and Buckler section. Interpretation has to be considered within this limitation.	
MS KK 5126 127v	A copy of the Lignitzer teachings	
	First part	
	1. From the Oberhau: reference to hand protection	
	2. From the Unterhau: reference to hand protection in Oberhangen and after the establishing of blade contact (Absetzen like technique).	
	3. From the wechselhaw: unclear reference to the buckler	
	4. From the Sturzau: unclear reference to the buckler. Possibly the adversary used the buckler in a deflecting/ parrying manner.	
	5. Deflector parrying by the buckler followed up by a disarm of the buckler of the adversary.	
	Second part	
	1. No reference to the buckler specific but text suggest possible the following: deflection of the thrust with the buckler followed by wrapping of the arm with the buckler hand followed by a thrust to the face	
	2. No reference to the buckler specific but text suggest possible the following: deflection of the thrust with the buckler followed by wrapping of the arm with the buckler hand followed by a thrust to the face	
	3. No reference to the buckler specific. Unclear action.	
Disclaimer	This manuscript does not have any iconographic guidings in the Sword and Buckler section. Interpretation has to be considered within this limitation.	
Synopsis	Protector: <ul style="list-style-type: none"> • Protector of the body (held in front) • Protector of the head (held above the head) • Protector of the hands (held close to the sword hand) 	
Disclaimer	(Ms Chart.B.1021 & Gotti MS not available for interpretation)	

Table 8: Andre(as) Lignitzer teachings

Folio	Technical explanation and interpretation
Cod 44a8, Cod. I. 6.4°.3, MS KK5126, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82	1. From the Oberhau: reference to hand protection
Cod 44a8, Cod. I. 6.4°.3, MS KK5126, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82	2. From the Unterhau: reference to hand protection in Oberhangen and after the establishing of blade contact (Absetzen like technique), Duplieren follow up, possible facilitated by the use of the buckler although not specifically mentioned.
Cod 44a8, Cod. I. 6.4°.3, MS KK5126, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82	3. From the wechselhaw: unclear reference to the buckler. Possible use as head protector of defender although not specifically mentioned. Cut to the leg possible facilitated by the use of the buckler as head protector by offender although not specifically mentioned.
Cod 44a8, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82	4. From the Mittlehaw/Twerhaw, thrust to the torso possible facilitated by the use of the buckler although not specifically mentioned.
Cod 44a8, MS KK5126, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82	5. From the Sturzau: unclear reference to the buckler. Possibly the adversary used the buckler in a deflecting/parrying manner.
Cod 44a8, MS KK5126, MS Dresd.C.487, MS E.1939.65.341, MS Var. 82	6. Deflector parrying by the buckler followed up by a disarm of the buckler of the adversary.
MS. MI. 29	No specific reference to the buckler
MS 963	Unavailable for interpretation and analyzation.
Synopsis	Protector: <ul style="list-style-type: none"> • Protector of the hands (held close to the sword hand)
Disclaimer	These manuscripts do not have any textual guidelines in the Sword and Buckler section. Interpretation has to be considered within this limitation.

Table 9: Hans Talhoffer manuscripts

Manuscript	Folio	Technical explanation and interpretation
Ms.Thott.290.2°	117v	Buckler used as head protector (left fencer) and body protector (right fencer).
	118r	Buckler used as head protector (left fencer).
	118v	Buckler used as head protector (left fencer) and body protector (right fencer).
	119r	Buckler used as body protector (middle fencer)
	119v	Buckler used in wrestling action, wrapping of the sword arm of the adversary, not buckler specific
	120r	thrust with the shield to the face (left fencer) probably after an action of the right fencer, followed up by a thrust to the torso form right Oberhangen.
	120v	Buckler used as head protector and/or deflector or parry device of a strike
	121r	Buckler used as hand protector in Unterhangen or Langort (left fencer) and Oberhangen (right fencer)
	121v	Buckler used in wrestling action, wrapping of the sword arm of the adversary, not buckler specific
	122r	Unclear action with the buckler.
	122v	thrust with the shield to the face (right fencer) probably after an action of the left fencer. Initiating action is unclear but possible an Overbind by the left fencer with follow up thrust with the shield to the buckler of the right fencer.
	123r	Unclear action with the buckler.
	123v	Unclear action with the buckler.
	Cod.icon.394a	117r
117v		Buckler used as hand protector to catch an incoming strike from above(left fencer)
118r		Buckler used in wrestling action, wrapping of the sword arm of the adversary, not buckler specific.
118v		Hooking of the pommel behind the sword hand of the adversary (left fencer) not buckler specific.
119r		Use of the buckler as a Pusher (left fencer)
119v		Use of the buckler as a hand protector (right fencer)
120r		Buckler used in wrestling action, wrapping of the sword arm of the adversary, not buckler specific
120v		Use of the buckler as a body protector (left fencer)
121r		Catching of the point during a thrust (left fencer) setting aside of the point and blade while cutting to the forearm of the adversary.
121v		Use of the buckler as a body protector (middle fencer)
Ms.78.a.15	54r	thrust with the shield to the arm (left fencer) probably after an action of the right fencer or vice versa. Initiating action unclear.
	54v	Use of the buckler as a hand protector in the bind or as a binder to the sword (left and right fencer). Initiating action unclear.
Synopsis	<p>Resting position:</p> <ul style="list-style-type: none"> On top of the hands <p>Physical barrier in Zufechten</p> <ul style="list-style-type: none"> In front of the body Facing the opponent <p>Protector:</p> <ul style="list-style-type: none"> Protector of the body (held in front) Protector of the head (held above the head) Protector of the hands (held close to the sword hand) <p>Deflector or parry (without deflecting the strike)</p> <ul style="list-style-type: none"> of a strike, cut or thrust of the sword of an incoming thrust with the shield <p>Thrust with the shield</p> <ul style="list-style-type: none"> To the buckler To the (sword) hand or arm 	<ul style="list-style-type: none"> To the face Left side, right side or upwards thrust with the shield as a counter to the thrust with the shield <p>Catching the point of the sword</p> <ul style="list-style-type: none"> Stationary in Unterhangen/Phlugh or Langort In the action of a thrust <p>Pusher: while in wrestlingaction pushing with the buckler to the body to create a disruption of the aderverys equilibrium.</p> <p>Binder: un close combat it can be used to bind with the buckler to the adversariers buckler in order to(Ms CL 23842 f128 r&v):</p> <ul style="list-style-type: none"> Control it Push it aside Slide safe to the other side
	In conjunction with the messer and the armingsword	
Disclaimer	These manuscripts do not have much textual guidelines in the Sword and Buckler section. Interpretation has to be considered within this limitation.	

Table 10: Cod.Guelf.78.2.Aug.2° (anonym manuscript)

Folio	Technical explanation and interpretation
113r	Buckler as a body protector against the spear (right fencer)
113v	Bucker used as a body protector (Left fencer) and hand protector (right fencer)
114r	Bucker used as a body protector (Left fencer) and head protector (right fencer)
114v	Bucker used as a body protector (Left fencer) and head protector (right fencer), possible with a counter action by the right fencer (cut to the leg) as a reaction to the left fencers action (Oberhau)
115r	Bucker used as a body protector (Left fencer) and head protector (right fencer), possible with a counter action by the right fencer (cut to the leg) as a reaction to the left fencers action (unclear action)
115v	Bucker used as a body protector (right fencer) and head protector (left fencer), possible with a counter action by the left fencer (thrust to the torso) as a reaction to the left fencers action (Oberhau), or after a fall of the left fencer.
116r	Bucker used as a hand protector (left fencer) and body protector (right fencer) combined with a kick and cut or thrust/
116v	-
117r	Use of the buckler as a head protector (right fencer) after wrapping of the sword arm and cut to the head by the adversary (left fencer)
Synopsis	<p>Resting position:</p> <ul style="list-style-type: none"> • Close to the body <p>Physical barrier in Zufechten</p> <ul style="list-style-type: none"> • In front of the body • Facing the opponent <p>Protector:</p> <ul style="list-style-type: none"> • Protector of the body (held in front) • Protector of the head (held above the head) • Protector of the hands (held close to the sword hand)
Disclaimer	This manuscript does not have any textual guidelines in the Sword and Buckler section. Interpretation has to be considered within this limitation.

Table 11: Fecht 1 (anonym manuscript)

Technical explanation and interpretation	
Thrust with the shield to the buckler (schildslach)	F2v; f4r; f5r; f7r; f14r; f16r; f18r; f23r; f29r; f30v; f31 r&v; f 32v
Thrust with the shield to the hand	F16v
Resting position close to the body	
Forward facing buckler : Body protector	F1r&v; f9r; f10r&v; f11v; f12&v; f13r; f14r&v; f15r; f17r; f19r; f21r; f22r&v; f26r&v; f27r&v; f28r; f29r
Resting position on hand: Hand protector	Entire manuscript
Pusher to the body: In the use of the Duplieren	F9v
Pusher against the blade	F21v
Physical barrier	F17r
During action	F17r;25rv
Deflector or parry of thrust or cut	F11r
Separation of the buckler (Nucken)	F24r
<p>Synopsis</p> <p>Resting position</p> <ul style="list-style-type: none"> • Close to the body • On top of the hands <p>Physical barrier in Zufechten</p> <ul style="list-style-type: none"> • In front of the body • Facing the opponent <p>Protector:</p> <ul style="list-style-type: none"> • Protector of the body (held in front) • Protector of the head (held above the head) • Protector of the hands (held close to the sword hand) <p>Deflector or parry (without deflecting the strike)</p> <ul style="list-style-type: none"> • Of a strike, cut or thrust of the sword • Of an incoming thrust with the shield <p>Thrust with the shield (Schildslach)</p> <ul style="list-style-type: none"> • To the buckler • Left side, right side or upwards • Thrust with the shield as a counter to the thrust with the shield <p>Binder: un close combat it can be used to bind with the buckler to the adversaries buckler in order to</p> <ul style="list-style-type: none"> • Control it • Push it aside <p>Slide safe to the other side</p> <p>Remarque: although this manuscripts has textual content and context, explanations and guidings are sometimes rather vague (eg. Nucken, Durchtriten,...)</p>	

Tables

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Figures

Figure 1	Left, Sword and Buckler fencing in minimal equipment (MEF), Right Sword and buckler fencing Full equipment tournament fencing (FEF)
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