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FROM SWISS FLUTES TO CONSORTS: THE FLUTE IN GERMANY CA. 1480–1530

by Nancy Hadden

The Swiss flute

In 1523 the Swiss engraver Urs Graf penned a drawing of four soldiers playing transverse flutes. It is by now a well-known image, printed in nearly every book about the history of the flute. It is the first - and in fact the only - image of a flute consort; but its original meaning may rest on more subtle reasons than simple uniqueness. It is a wonderful picture, full of animation, humour and narrative; the physical features, clothing and weapons of each man are drawn with exaggerated care. The flutes are simply drawn, but Graf does depict the three sizes of flutes needed for what Martin Agricola six years later defined as the flute consort – treble, alto and tenor of the same size, and bass.[1]

It will be the purpose of this paper to pinpoint the emergence of the transverse flute as a military instrument, and to explore the beginnings of the flute consort and its earliest development in Germany up to about 1530.[2] How did the flute cross over from military to court and civic circles? What music was played by the soldiers, and in the earliest consorts, how was it played? What were the instruments like, from the earliest Swiss infantry flutes depicted around 1480 to the consort flutes discussed by Martin Agricola in 1528? Some of these questions do not have ready answers. For the period before 1530 archival references to flutes are few and far between. Before I investigate this murky period in the history of the flute, let us look at Urs Graf and his drawing.

Urs Graf was born in Basel about 1485. He was first trained by his goldsmith father, and apprenticed as a goldsmith in Zurich. He designed book illustrations and worked as a stained-glass painter's assistant before joining the Basel goldsmiths' guild in 1512. In addition to his career as an artist, Urs Graf was a mercenary soldier who regularly abandoned family and workshop in Basel for military campaigns and adventure. At home, he was jailed for wife-beating and consorting with prostitutes. He fled Basel in 1518 after an attempted homicide, returning a year later as the mint's die cutter. He disappeared from Basel in 1527, but a signed drawing is dated 1529. It is no wonder, given his life of adventure, that he often chose to depict scenes of violence and brutish battlefield life, with backgrounds of fantastical craggy trees and Alpine

[1] Martin Agricola, *Musica instrumentalis Deudsch*, Wittenberg 1528 and ²1545, Reprint Hildesheim 1985, f. XIII.

[2] I am indebted to Dr. Keith Polk's extensive research on court and civic instrumentalists, their migrations and repertory which have inspired my own research on flutes and flute playing.

Pl. 1: Urs Graf, „Four flute-playing soldiers“, 1523. (Basel: Öffentliche Kunstsammlung, Kupferstichkabinett, K. 108).[3]

landscapes.[4] His musical subjects include a rather rude drawing of dancing peasants, one female fiddle player, several engravings of flutes and drums, as emblems on dagger shields and title pages, and a lute player in Sebastian Virdung's music treatise *Musica getutscht* (Basel 1511).[5]

[3] Photo after: Anne Smith, „Die Renaissance-Querflöte und ihre Musik. Ein Beitrag zur Interpretation der Quellen“, in: *BJbHM* 2 (1978) 11.

[4] Graf's engravings, including the musical subjects, are reproduced in Walther Lüthi, *Urs Graf und die Kunst der Alten Schweizer*, Zürich and Leipzig 1928 and Emil Major/Erwin Gradman, *Urs Graf*, Basel 1941; see also: Anne Smith, „Die Renaissance-Querflöte und ihre Musik. Ein Beitrag zur Interpretation der Quellen“, in: *BJbHM* 2 (1978) 11.

[5] See Max F. Schneider, *Alte Musik in der bildenden Kunst Basels*, Basel 1941, pl. 53, 54, 69–71, 73–78; Sebastian Virdung, *Musica getutscht und auszgezogen* [...], Basel 1511, Reprint Kassel etc. 1970; *Musica getutscht: a treatise on musical Instruments (c. 1511) by Sebastian Virdung*, translated and edited by Beth Bullard, Cambridge 1993. The illustration of the lutenist on f. J II' is signed by Urs Graf. There is no other direct evidence for his contribution to the other woodcuts in the book.

Ardal Powell has identified the players as two Swiss „Eidgenossen" and two German „Landsknechte".[6] This is curious, given the fact that the Swiss and German mercenaries fought against each other in the Burgundian and Swabian wars and had a long-standing animosity towards each other. It seems unlikely that they would have joined together for a bit of jolly music-making in their spare time.[7] Graf's juxtaposition may wish to depict that the animosity between the competing soldiers was at an end, recalling the well-known expression „accordez vos flûtes" is a command not only to „tune your flutes" but also to „agree, or get along amongst yourselves."[8] The exaggerated posture, large and prominently displayed military swords and cod-pieces lend a rather humorous, intimate air to the drawing. The treble player on the right is the keeper of the instruments, with a case for several sizes of flutes hanging from his belt. The bass player is viewed from the back. One can imagine his discomfort as he twists himself into playing position on this awkward instrument. The tenor player on the left is a mature man, drawn in profile, while the second tenor player looks balefully at the viewer, a comical figure with his unruly hair, large handlebar moustache and piercing eyes.[9]

The above interpretation does not lessen the importance of this picture as a document for flute playing. First of all, it is the only iconography we have which depicts players in a consort of treble, two tenors, and bass flutes. Secondly, the players' embouchures, hands, neck and finger positions over the six holes are very accurately on display. The treble player on the right, playing to the left side, displays a pouting embouchure and perfect hand and wrist position, fingers well-placed over the holes. The tenor player on the left, playing to the right, also has a prominent lower lip on display. All the players seem to be balancing the flute from underneath with the little fingers of both hands.

In Graf's drawing the soldiers are playing without music. This is not unusual. Instrumentalists are not usually portrayed with music, unless the music itself

[6] Ardal Powell, *The flute*, New Haven and London 2002, 27.

[7] See Douglas Miller and G. A. Embleton, *The Swiss at war*, London 1979, and *The Landsknecht*, London 1976 for details of battles and the mercenaries' careers as members of the armies of Charles the Bold and Maximilian I during the late fifteenth and early sixteenth centuries. By the time of Urs Graf's picture the Swiss had gained their independence, the Swiss style of pike warfare had been superceded by the introduction of guns, and Germany and Switzerland were at peace, so a reconciliation among the soldiers seems plausible.

[8] See for example *The concise Oxford French dictionary*, London 1934, 9, where this usage still is current: „accorder [...] to reconcile, conciliate, to harmonize, to tune: *accordez vos flûtes*, you should first agree with each other". Georges Kastner, *Parémiologie musicale de la langue française*, Paris 1886, has many expressions current in 16th century French usage derived from musical terms. For example, Benigne Poissenot writes „before going on I beg you to tune your flutes" (that is, come to an understanding) – „accorder ses flutes", for „the dissonance is great". See Poissenot, *Traite paradoxique*, Paris: Nicard 1583, quoted in Kastner, *Parémiologie*, 318.

[9] It is a tempting thought that Graf the mercenary Swiss soldier may have played the flute himself and that this is a self-portrait. This is pure fantasy on my part, since there is no evidence to support this idea. At the time of the drawing Graf would have been about thirty-five years old, a plausible age for the moustachioed flautist.

has some symbolic significance. For an example of this, see the „Jouyssance vous donneray" painting (pl. 6), where the words of the music are integral to the meaning of the painting. It is possible that Graf's soldiers are improvising or playing from memory. But the absence of music in pictorial sources does not mean that instrumentalists could not read or that they always played from memory. It is simply that according to artistic convention the instruments in their hands are sufficient to identify the figures as musicians; singers, by contrast, usually do hold music.

The fifteenth century was a time of tremendous growth in instrumental music. Keith Polk, Peter Holman and others have verified that instruments developed in several sizes and were playing in duos and larger consorts well before the end of the fifteenth century.[10] Two sizes of shawm were known by the early 1400s, and by 1430 were joined by the slide trumpet to form the three-part *alta capella* which established itself as the pre-eminent consort through-out Europe. „Fleutes" (recorders), „Posaunen" (trombones), and „douchaines" (soft shawms) were made in sets by the mid-fifteenth century, followed by various sizes of crumhorns, „Geigen" (bowed strings), and viols by about 1500. Not so the transverse flute, which all but disappeared during the fifteenth century, and did not seem to develop as a consort instrument until the very early years of the sixteenth century. There seems no reasonable explanation for this, since the flute can be documented in iconographic and literary sources all over Europe during the fourteenth century and as far back as the eleventh century.[11] It was pictured in combination with soft instruments such as fiddles, harps and lutes up to the early fifteenth century. But it is not documented again until the third quarter of the fifteenth century when it re-emerged as a fully integrated member of the disciplined and highly-trained Swiss infantry.

The Swiss army were using a new style of land offensive, dividing the troops into small rectangular units, each consisting of a number of halberd-bearers surrounded by pike-bearers, perhaps as many as twenty deep, on the outside flank.[12] Each tightly knit formation had cocooned at its centre a trio, consisting of a standard bearer, waving the flag of his individual Swiss canton, a flute and a drum, to energize the troops and give signals within the unit (pl. 2). Keith Polk has identified the flute and drum duo as the „Swiss Pair".[13] The flute most usually depicted is what we would now call the tenor size. The drum in Swiss pictures c. 1475–90 is most often a small snared tabor, like those used to accompany the three-hole pipe; after 1490 it is more usually a large field drum.

[10] For a concise overview of the development of instrumental consorts, see Peter Holman, *Four and twenty fiddlers*, Oxford 1993, 4–17. For German consorts in particular, see Keith Polk, *German instrumental music of the late Middle Ages*, Cambridge 1992.

[11] See Jane M. Bowers, „‚Flaüste traverseinne' and ‚Flûte d'Allemagne': The flute in France from the late Middle Ages up through 1702", *RMCF* 19 (1979) 7–49; Liane Ehlich, „Zur Ikonographie der Querflöte im Mittelalter", *BJbHM* 8 (1984) 197–211.

[12] Pl. 2 reproduced and Swiss warfare discussed fully in Miller and Embleton, *The Swiss at war*, 28.

[13] Keith Polk, *German Instrumental Music*, 41.

Pl. 2: Diebold Schilling, *Berner Chronik* (Berne, 1484–1485): Swiss soldiers in battle formation with the standard bearer, flute and drum in their midst.[14]

Two battles in Burgundy in 1476 document the victory of the Swiss infantry squadrons over the Burgundian cavalry of Charles the Bold. The soldiers were reported to have stepped precisely in time to the beat of the drum.[15] This was a new style of land warfare, and it swept the continent. The Swiss were hired and their tactics emulated throughout Europe. By 1480, 6000 Swiss mercenary soldiers had entered the service of Louis XI of France, and by around 1500 most of the continental armies had adopted the Swiss pike formations, along with the flutes and drums, who spread the sound and technique of their playing far and wide into northern Europe.

The Swiss flute, known as the „Schwegel", was – and is still – a common folk instrument in Switzerland and lower Bavaria. The term „Schwegel", a Gothic word used in German lands, can be found as early as the twelfth century to describe a transverse flute played by Sirens, illustrated in the German encyclopedia *Hortus Deliciarum*.[16] The city of Basel engaged „Schwegel" players and drummers for town processions and festive occasions as early as

[14] Photo after: Dagmar Hoffmann-Axthelm, „Zu Ikonographie und Bedeutungsgeschichte von Flöte und Trommel in Mittelalter und Renaissance", in: *BJbHM* 7 (1983) 89.

[15] See Miller and Embleton, *The Swiss at war, 1300–1500*, 28.

[16] A facsimile of the original plate, depicting sirens playing „Schwegel" and harp, is reproduced in Rosalie Green et alii (ed.), *Herrad of Hohenbourg, Hortus Deliciarum*, reconstruction, vol. 2, London 1979, pl. 297 (=Studies of the Warburg Institute 36); Howard Mayer Brown, „Flute", *The New Grove Dictionary of Music and Musicians*, London 1980, vol. 6, 671.

1374. Arnt von Aich mentions „Fleitten und Schwegelen“ on the title page of his collection of German songs published in Cologne 1519, but probably originating in Augsburg c. 1510–1514: „In dissem Buechlyn fynt man LXXV. hubscher Lieder myt Discant, Alt, Bas und Tenor. lustick zu syngen. Auch etlich zu fleiten, schwegelen und an deren musicalisch Instrumenten artlichen zu gebrauchen“.[17] In its essential features the „Schwegel“ is the same as the renaissance flute: a wooden, keyless, cylindrically-bored tube with six finger holes and a side-blown mouth hole.

The relative robustness of the Swiss flute must have suited their style of land warfare. Bagpipes and shawms have finicky and fragile reeds. Trumpets are vulnerable, with easily crushable thin metal tubing, extreme length and „out front“ playing position. The mouthpiece is cold (even freezing) to the lips in winter, and anyway trumpet bands were associated only with the courtly nobility; they did not go into battle with the common soldiers. A side-blown flute, held close to the body, could not knock out the teeth of the player, could be drawn in easily, transported easily, and its piercing tone, especially in the high register, was said to inspire the soldiers during battle.

Names for the transverse flute

At this point it is useful to consider the various names for transverse flutes, both military and civilian. A representative selection shows a confusing and contradictory usage of terms. The French poet-musician Guillaume de Machaut called upon the „flaüste traverseinne“, or transverse flute, distinguishing it from the vertically-blown „flaüste“, or recorder, in his fourteenth-century poem *La prise d'Alexandrie*.[18] In the late fifteenth century the French military „Ecurie“ documents payments to the „tabourins suisses“, a regiment consisting of Swiss flute and drum players. In 1516 these same flutes and drums, employed by Charles VIII, were called „phiffres et tabourins“. Two soldiers playing drum and a „fluste“ were engaged to play at the French court in 1491. Sebastian Virdung in 1511 describes the soldiers' flute simply as a „Zwerchpfeiff“, or transverse flute.[19] The German writer Martin Agricola labels his consort of four flutes „Schweitzerpfeiffen“, or Swiss flutes, and also refers to a „Querpfeiff“ in his teaching manual for schoolboys, *Musica Instrumentalis Deüdsch* published in Wittenberg in 1528.[20] The sources seem to use terms interchangeably. There was not a separate terminology for the „military“ flute, nor do pictorial sources show any evidence that the basic design of the flutes played by soldiers at this early period in the history of the flute was different to „civilian“ flutes. Some writers have suggested that the military flute

[17] See Eduard Bernoulli / Hans Joachim Moser, *Das Liederbuch des Arnt von Aich*, Kassel 1930, VIII. This is the first published music to mention transverse flutes.

[18] This and the following French references are cited by Bowers, „‚Flaüste Traverseinne'“, 14–17.

[19] Virdung, *Musica getutscht*, B3v.

[20] Cf. fn. 1; see also William Hettrick's translation, *Martin Agricola's Musica Instrumentalis Deudsch*, Cambridge 1994, 67.

may have been tuned differently from consort instruments of the sixteenth century, with a simple fingering system which did not involve cross fingering.[21] This is difficult to prove. Having examined a large number of drawings of flute-playing soldiers, I find that a significant number are depicted using cross fingerings. Looking back at the Graf drawing (pl. 1) we see two of the men doing just that: 12346 and 12356. Surviving instruments characteristically have an F# that is far too flat in pitch, fingered 1234, and an F natural that is far too sharp, with a cross fingering, 12346. But it is possible to play a convincing F natural with 1234 simply by adjusting the embouchure and breath to flatten the pitch. It is difficult to say whether soldiers or other players would have used this technique.

No specific music for the Swiss Pair survives from this early period. Their music, like much of the instrumental repertory in the fifteenth century, was probably improvised, or at least memorized, from a stock of internationally known basse dance tenors, songs and the like. Improvised music utilized the same materials and followed the same theoretical principles of counterpoint, cadential structure and form as composed music of the time.[22]

Some military signals and melodic patterns may be preserved in a corpus of fifteenth- and early sixteenth-century polyphonic battaglia pieces. The late fifteenth-century *Pixérécourt* manuscript (F-Pn f.fr. 1512[3]) *Alla bataglia a3* displays such features as repeated chord patterns and insistent repeated figurations. Isaac's 4–part *A la battaglia* (c. 1460) contains similar features, as does the *Pavan, La bataille,* printed in Jacques Moderne's *Musicque de Joye* (Lyon ca. 1540). Probably the most famous of the early sixteenth-century *battaglias* is Clément Janequin's 4-part chanson *La guerre,* written to commemorate the Battle of Marignano in 1515. Janequin's chanson may best represent the playing of the „phiffres et tabourins Suisses" who accompanied the French king Charles VIII during the Italian campaigns of 1494 to the 1520s. Some later compositions show that the battle genre persisted into the seventeenth century. Matthias Hermann Werrecore, Annibale Padovano and Andrea Gabrieli each wrote a polyphonic *Pavan, la battaglia*; a *ricercare* for *traversa* by Aurelio Virgiliano, ca. 1600 has recognizable battle themes, as does William Byrd's *The flute and the droom* in *My Lady Neville's Book.*[23]

[21] Two surviving flutes in the military museum Landeszeughaus in Graz, along with descriptions of „Schweitzerpfeiffen" by Michael Praetorius, *Syntagma Musicum* 2, Wolfenbüttel 1619 and „fifre" in Marin Mersenne, *Harmonie Universelle*, Paris 1636, may point to the seventeenth-century development of a military flute which had some different tuning characteristics. This represents a late development in the history of the flute. Further discussion of the Graz flutes is in Boaz Berney, „Renaissance transverse flutes: A re-examination of the surviving instruments", in: *Musicque de joye, Proceedings of the international symposium on the Renaissance flute and recorder consort,* edited by David Lasocki, Utrecht 2005, 61–75.

[22] See Adam Gilbert's discussion of the materials and styles of improvisation and its relationship to composed polyphony in this journal.

[23] Cf. Dagmar Hoffmann-Axthelm, „Zu Ikonographie und Bedeutungsgeschichte von Flöte und Trommel in Mittelalter und Renaissance", in: *BJbHM* 7 (1983) 91ss.

Heinrich Biber's *Battaglia à 10* (1673) contains a section entitled *Marsch*, or march.[24]

Ex. 1a: Heinrich Isaac, „La battaglia" (Florence, Biblioteca Nazionale, Ms. Panciatichi 27, f. 9v–12r).[25]

Ex. 1b: Pavane „La Bataille", (*Musique de Joye*, Lyon: Jacques Moderne ca. 1542).

Ex. 1c: Clément Janequin, „La Guerra" (Paris: Pierre Attaignant 1528).

Phi-fres souf-fles phif-fres souf-les Trap-pes ta - - - -

bours, tour-nes, viv-res fai-tes vos tours phif-fres souf-fles frap-pes ta - bours Poul ses jou -

es, tour-nes viv-res fai-tes vos tours phif - fres souf - fles frap - pes ta -

bours, tour-nes viv-res fai-tes vos tours, phif - fres souf-fles, souf - fles jou-es pat-tes tours -

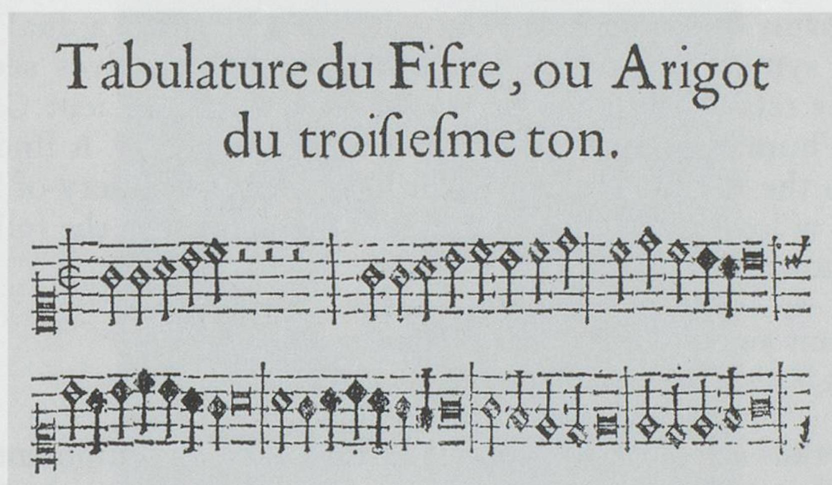
jours. A - van - tu - riers, bon com - pan - gnons.

[24] Further discussion of these pieces is in Nancy Hadden, „The transverse flute in the seventeenth century", in: *From Renaissance to Baroque*, ed. Jonathan Wainwright and Peter Holman, Aldershot and London 2005, 122–125. Ardal Powell includes an excerpt from Biber in *The Flute*, 33.

[25] Cf. Timothy McGee, „'Alla Battaglia': Music and ceremony in fifteenth-century Florence", *JAMS* 36 (1983) 287–302.

Thoinot Arbeau's dance treatise, *Orchesographie* (1588), includes a monophonic „tabulation" as an example of how the Swiss Pair improvised.[26] Although a relatively late source, it is important for being the only such example of monophonic „military" music. Arbeau tells us that the flute improvises to the rhythm of the drum and must keep in time with it. Flute and drum are inseparable, and each instrument has its own special role in the improvising ensemble. The fully-written-out flute „improvisation" in duple time, shown below in pl. 4, is made up of short repetitive patterns in phrygian mode. There is an absence of complicated rapid diminutions.[27] It is in the pattern of a typical „five-beat march", five minim drum beats followed by three beats' rest.[28]

Ex. 2: Arbeau's „Tabulature du Fifre, ou Arigot du troisiesme ton" (f. 18').



Soon after they appeared on the battle fields of Europe, the Swiss Pair were engaged at Burgundian and French courts to play for dancing, weddings, banquets, processions and other entertainments. The duo was considered to be of the „haut" or loud instrument group, and so was especially suited for celebrations out of doors or in large halls. The music they played at these court engagements was probably much the same as on the field, but adapted to the rhythms of the basse dance, tourdion, pavan and other court dances in the manner suggested by Arbeau. Flutes, drums and trumpets („tambours, fifres

[26] Thoinot Arbeau (pseudonyme de Jean Tabourot), *Orchésographie: Methode et théorie en forme de discours et tablature pour apprendre a danser, batter le* tambour, Reprint Genéve 1972; Thoinot Arbeau, *Orchesography* (1589), translated and edited by Mary Stewart Evans, New York 1967, 22–46, provides copious examples of five-beat drum patterns and plates of drum and flute, as well as the flute pieces noted above.

[27] Arbeau's second „tabulation" demonstrates how to adapt the same melodic material to triple metre. Other possible late sixteenth-century music examples may be found in Virgiliano, Byrd, Gabrieli, Padovano, Werrecorre. For further discussion of these sources see Nancy Hadden, „The transverse flute in the seventeenth century", op. cit.

[28] See Miller, *The Landsknecht*, 38, who documents movement during an assault as „three paces for every five drum beats".

et trompettes") announced the entry of the food during a banquet for the baptism of Antoine, eldest son of René II of Lorraine, 4 June, 1489 (this is the same year in which Charles VIII established his „phiffres et taborins suisses"). German drummers and a flute player („deux aultres sonneurs de tabourin et ung sonneur de fluste, quelx estoint Almans") performed at the wedding festivities of King Charles VIII of France and Anne of Brittany, 13 December, 1491.[29] Several paintings show the Swiss Pair playing for dancing, particularly depicting the torchlight processions of the *Fackeltanz*, or torch dance, especially popular in Germany and traditionally performed by military musicians during marriage celebrations.[30]

It may be significant that the military Swiss Pair was engaged to play for wedding festivities. I have pointed out in a previous publication the flute's dual personality as a symbol of both the war like qualities of Mars and the seductive charms of Venus.[31] Not only did the flute have a dual personality, the states it symbolised – love and war – were themselves seen as yoked together. This relationship can be traced back to the ancient Greeks and is alluded to in humanist Renaissance paintings and poetry. It finds particular expression in the Roman concept of *militia amoris* (soldiery of love);[32] here, the language of love is couched in military metaphors, as the following lines from Ovid show:

> Militat omnis amans et habet sua castra Cupido
> Every lover is a soldier in Cupid's private army.[33]

Swords and pikes are obvious symbols of their sexual equipment, and, I suggest, so are transverse flutes.[34] All are represented in exaggerated form in Urs Graf's drawing.

The dual concept of „militia amoris" is nowhere more graphically presented than in the drawing by Niklaus-Manuel Deutsch (1484–1530) depicting the Swiss Pair with a twist. A voluptuous female plays her flute with vigour, naked but for a case of flutes hanging from her belt. Mountains are visible in the distance behind, a tree stump, looking very like a large drum, is in the left foreground.

[29] Jane M. Bowers, „‚Flaüste traverseinne'", 17. Bowers cites the 1489 baptism banquet reference as the earliest account of the use of „fifres" in France. However, Louis XI purchased six thousand Swiss mercenaries in 1476 – there would have been flutes and drums among them, even though no specific documents exist to prove it.

[30] See „Fackeltanz", *The New Grove Dictionary of Music and Musicians*, London 1980, vol. 6, 357; Powell, *The Flute*, 37, reproduces a painting of the torch dance accompanied by the Swiss Pair; *Flemish Book of Hours*, c.1500: London, British Library MS Add. 24089, f. 19v.

[31] See Nancy Hadden, „The transverse flute in the seventeenth century", 125.

[32] I am grateful to Philip Gruar for introducing me to the concept of „militia amoris" and directing me to the sources for Ovid which I have used in this discussion.

[33] *Ovid's Amores*, translated by Guy Lee, London 2000, Book 1 no. 9, ll. 1–2.

[34] Cf. Hoffmann-Axthelm, op. cit., 116 ss.

There is no evidence that the Swiss Pair performed in mixed ensembles or „art“ music of any kind. But there is evidence that a new phase in the history of the flute was beginning, as a direct result of the Swiss Pair's presence at court. Although the Swiss Pair remained aloof from participation in mixed ensembles, their sojourns at court brought them into contact with all kinds of music. It is reasonable to imagine that they would have heard the court musical repertory which was circulating in Europe around 1500 and learned to play some of it themselves. In turn, the German soldier-flautists must have provided the impulse and opportunity among court wind players to learn the flute. From around 1500 court records begin to refer to transverse flutes as „flûtes alemans“, or German flutes. This is significant, as it implies that the

Pl. 3: Niklaus Manuel Deutsch (1584–1530): Female flautist (Basel, Öffentliche Kunstsammlung).[35]

art of flute playing was being passed from the German and Swiss soldiers to musicians at court. The first reference, to „certaines joueurs de flûtes alemans“ in 1504 from the court of Philip the Fair, is somewhat ambiguous, and may

[35] After: Raymond Meylan, *Die Flöte*, Mainz etc. 1974, 82.

refer to „German players of flutes“ or to „players of German flutes“.[36] A more definite reference comes from a French inventory of 1514, where „Deux fleustes d'Allemain“ are recorded.[37] The earliest references to transverse flutes in Italy, c.1529–30, use the German term, „flauti alemani“,[38] and a preference for this name in France and England remained current well into the eighteenth century.

During the early sixteenth century the flute underwent a metamorphosis from a military instrument to a delicate and highly expressive court chamber music instrument. Most references to flute playing after the middle of the sixteenth century refer to its softness of tone and the majority of paintings show the flute in soft consorts with lutes, voices and viols. An example of this is the famous „Jouyssance“ painting by the Master of Half lengths, where a trio of women – flautist, lutenist and singer – are shown performing Claudin de Sermisy's chanson „Jouyssance vous donneray“.[39]

Pl. 4: Master of the Half-Lengths, ca 1520: The „Jouyssance vous donneray“ painting (Schloss Rohrau, Vienna, Harrad-gallery, Mag. Mus. 1, 51).[40]

[36] Cited by Keith Polk, „The recorder in fifteenth century consorts“, in: *Musicque de Joye*, op. cit., 25. Howard Mayer Brown (GroveD 1980, vol. 4, 670, „flute“) has suggested that the name „German flute“ derives from its dissemination out of Byzantium along the trade routes and into Germany as the first European port of call ca. 1100. But there is no documentation for the term „German flute“ before c.1500, and I think the military route is more likely.

[37] 1514, Château de la Motte-Feuilly inventory of furniture, cited in David Lasocki, „A listing of inventories and purchases of flutes, recorders, flageolets, and tabor pipes, 1388–1630“, *Musicque de joye*, op. cit., 427.

[38] Christoforo Messisbugo, *Libro novo qual s'insegna a far d'ogni sorte di vivande ...*; Ferrara 1529, 14v, 19r; Este archives, 1530, Florence, cited in Lasocki, „A listing ...“, 428.

[39] The sexual pun on the word „Jouyssance“ also points to the aspect of the flute as a phallic symbol. It is significant that the music is clearly shown, and that the flautist is reading from it.

[40] Photo after: Stanley Sadie / Alison Latham (ed.), *Das Cambridge Buch der Musik*, Frankfurt/M. 1994, pl. 8.

The case for the flute consort

More than one size of flute was being played by soldiers around 1510, although at this point there is no evidence to suggest that the flute consort had yet developed among them. Leading the procession in the woodcuts by Hans Burgkmair entitled *Triumphs of Maximilian I* (1526) are four flute players sitting on horseback, all with cases hanging from their belts which show three or four nested tubes of different sizes.

Pl. 5: Hans Burgkmair (1473–1531), *Flute players from the Triumphs of Maximilian I.* The lead player, identified as „Anthonius von Dornstätt, der Pfeifer", is also the standard bearer.[41]

Herbert Myers has shown that a date for these illustrations may be pushed earlier, to about 1510.[42] We can therefore say with certainty that flutes in more than one size had developed by that date and probably somewhat earlier.[43]

[41] Photo after: Horst Appuhn (ed.), *Der Triumphzug Kaiser Maximilians I., 1516–1518,* Dortmund 1979, pl. 3; for the identification see p. 171f.

[42] Herbert Myers, „The idea of ‚consort' in the sixteenth century", in: *Musicque de Joye,* op. cit.,52.

[43] A drawing of a military flautist by Albrecht Dürer (Ashmolean Museum, Oxford) dating from ca. 1490 may have a flute case hanging from his belt; the outlines are too abstract to identify it as such with certainty.

The first source which depicts flutes inside a case is Hans Holbein's „The Ambassadors", painted in 1533 at the court of Henry VIII.[44] Here we see a consort of four handsome flutes fitted into nesting tubes, one small, two of the same middle size, and one large, the same combination played in Urs Graf's drawing. A fifth tube, which looks to be for a flute of the middle size, is empty, probably a symbolic reference.

Pl. 6: Hans Holbein, „The Ambassadors" (1533): detail of „Kom heiliger geyst" from Johann Walter's „Geystliches gesangk Buchleyn (Wittenberg 1524) and flutes in a case, showing three sizes of instruments (London, National Gallery).[45]

Today only about fifty Renaissance flutes survive in museum collections. Filadelfio Puglisi's pioneering and still unsurpassed research on renaissance flute design has shown that extant flutes are remarkably uniform, with a cylindrical interior bore, some external tapering, six finger-holes, a very small embouchure hole, an absence of keys, and thin walls which make the instrument feather-light and contribute to the sound quality. This design did not fundamentally change over the course of one hundred and fifty years, although some flutes exhibit particular voicing in the embouchure under-cutting, and others show variations of pitch and tuning.[46] By far the largest number of

[44] See Mary Rasmussen, „The case of the flutes in Holbein's ‚The Ambassadors'", *Early Music* 23 (1995) 116–23, which documents a large number of early sixteenth-century drawings of flute-playing soldiers with cases for multiple sizes of flutes hanging from their belts.

[45] Photo after: Susan Foister et alii, *Holbein's ambassadors*, London 1998.

[46] See Filadelfio Puglisi, „A Survey of Surviving Renaissance Flutes", *GSJ* 41 (1988) 67–82, and *The Renaissance transverse flutes in Italy*, Florence 1995. For more detailed discussion of the design of flutes see also Anne Smith, „The Renaissance flute", in: John Solum, *The early flute*, Oxford 1992, 11–33.

surviving instruments are thirty-four tenors. Basses number seventeen.[47] No discant flutes survive (a single example was stolen from the Brussels Museum in 1979), and a badly deteriorated flute found inside a case, is now in the Kunsthistorisches Museum, Vienna.

Pitches

The single feature which alters the tone and response of flutes most is that of pitch. It is therefore worthwhile to look at the pitches of surviving flutes, and to see what the contexts for using flutes at different pitches might be. If we put the speaking lengths of extant consort flutes side by side we get an almost continuous succession of pitches from the lowest, a tenor flute by Claude Rafi, stamped C.RAFI (Verona, Accademia Filarmonica, 13287), at a pitch of a=360, to the highest, a tenor flute made by Bassano, stamped !! !! (Vienna, Kunsthistorisches Museum, 174, formerly Ambras, 185),[48] at a pitch of a=470. We can assume that flutes are in the three nominal pitches of G–D–A, as identified in all the treatises, and that these were tuned to different pitch standards, of which there were four common ones in use during the sixteenth century.[49]

Bruce Haynes has covered the subject of pitch in minute detail; the four pitch levels which he identifies may be summed up as follows:

1. A=460, called „mezzo-punto" in the sixteenth century and the most common pitch-standard for winds other than the flute.
2. A=410, „tuono corista", or „Chorton", the ideal and most common pitch standard for singers, and the one in which mixed vocal/instrumental ensembles usually performed, a tone lower than a=460. Winds at the high pitch of a=460 would then have to transpose down a tone.
3. A=440, „tutto punto".[50] This was a „compromise" between instrumental and vocal pitch, to avoid instrumentalists having to transpose down a tone. It is a whole tone higher than:
4. A=380, which was a vocal pitch used in Rome, c.1600, some catholic chapels in Germany, an old English pitch for winds, and all instruments in the Southern Netherlands.

The largest surviving cluster of flutes – twelve tenors and four basses – is at a pitch around a=408, representing „Chorton" and „mixed ensemble" pitch. It suggests that flutes were made at this pitch to obviate the need for transposing

[47] Puglisi's original check-list is updated in Philippe Allain-Dupré, „Renaissance and early Baroque flutes: an update on surviving instruments, pitches, and consort groupings", *GSJ* 57 (2004) 54–55.

[48] See Boas Berney, „Renaissance traverso flutes", 62.

[49] The following discussion and references to pitch standards are from Bruce Haynes, *Pitch Standards in the Baroque and Classical Periods* (PhD. University of Montreal 1995).

[50] Haynes documents mention of „tutto punto" pitch only after the middle of the sixteenth century.

in mixed vocal and instrumental ensembles. Flutes had a limited capacity for transposition, and sounded more beautiful at lower pitches.[51]

A smaller group at a=435 comprises six tenors and two basses. This is close to „tutto punto", the post-1550 compromise pitch, which also suggests the avoidance of transposition by flutes in mixed ensembles.

The instruction books for consort flutes

Three sizes of flutes are described in nine treatises produced between 1511 and 1636 (see the table below). The treatises by Martin Agricola and Michael Praetorius, nearly one hundred years apart, are the only ones to mention all three sizes, bass in g, tenor-altus in d′, and discantus in a′. French sources by Philibert Jambe de Fer (1556) and Marin Mersenne (1636) indicate that the French flute consort consisted of only two sizes, the bass in g and tenor-altus in d′, while the Italians Girolamo Cardano, Lodovico Zacconi and Aurelio Virgiliano describe only a flute in d′. Treatises and pictorial sources indicate that the a′–d′–d′–g consort remained an option throughout the sixteenth century at least in German lands and in England, while the French favoured the consort of only two sizes, d′ and g. There is no evidence for any but the tenor flute in Italian sources (however, surviving Italian collections preserve both tenor and bass sizes).

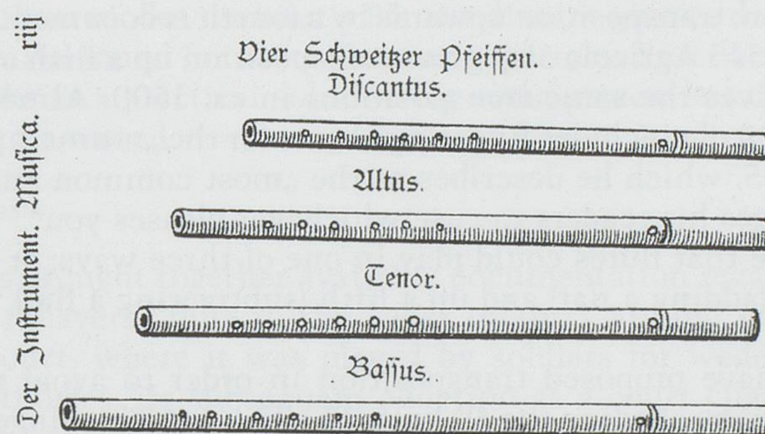
Flute sizes as found in the treatises

source	pitch	term used
Sebastian Virdung, *Musica getutscht und auszgezogen*, Basel 1511	d	Schwegel, Zwerchpfeiff
Martin Agricola, *Musica instrumentalis deudsch*, Wittenberg 1528, ²1545	g–d′–a′	Schweitzer Pfeiffe
Girolamo Cardano, *De musica*, 1546 (printed Lyon 1663)	d′	fifola
Philibert Jambe de Fer, *L'épitome musicale*, Lyon 1556	g–d′	fleutes d'Alleman
Lodovico Zacconi, *Prattica di musica*, Venice 1552	d′	traversa
Aurelio Virgiliano, *Il dolcimelo*, ca. 1600 (Bologna, Civico Museo Bibliografico Musicale, ms C 33)	d′	traversa
Michael Praetorius, *Syntagmatis Musici Tomus Secundus, De Organographia*, Wolfenbüttel 1619, 22, 35, IX, XXIII	g–d′–a′	Querpfeiffe, Querflötte. Schweizerpfeiff

[51] Only transpositions by a fourth and a fifth are documented for flutes by Agricola and Virgiliano. Praetorius (1619) says that flutes sound more beautiful at lower pitches.

Francesco Rognoni, *Selva di varii passagi*, Milan 1620	d' (?)	fifona
Marin Mersenne, *Harmonie Universelle III*, Paris 1636, 241	g–d' d'	Fluste d'Allemand fifre

Consorts of recorders and crumhorns are described by Virdung, but he depicts only a single flute – what we would call the tenor – which suggests that consorts of flutes were not yet well known in 1511. The first to describe flute consorts is Martin Agricola, a self-taught musician, follower of Luther, and music teacher in the school at Magdeburg. His treatise *Musica Instrumentalis Deudsch* borrowed Virdung's illustrations of musical instruments, including consorts of recorders and crumhorns. Entirely new is Agricola's chapter devoted to discussion of playing transverse flutes. A full consort of four flutes, or „Schweitzerpfeiffen", is illustrated: discantus, altus and tenor of the same size, and bass, tuned a fifth apart „according to the demands of the music."[52]



Pl. 7: Martin Agricola's flute consort, from *Musica Instrumentalis Deudsch*, Wittenberg 1528, f. XIII.

He recommends that flutes should be purchased in sets to ensure they are in tune together. Backing up his comment are numerous inventories which frequently list flutes in matched sets of five, six or more kept together in cases. An example from Berlin, Kurbrandenburgische Hofkapelle, dated 1582, includes all three sizes of flutes, discant, alto/tenor and bass:

> Another case without a cover, of nine transverse flutes, namely two basses, four tenors or altos, and three discants.[53]

[52] Martin Agricola, *op. cit.*, XII: „Ein anders schönes und recht Fundament wie drey odder vier Schweitzerpfeiffen noch forderung des gesanges miteinander gebraucht Und wie die sechs löcher noch den Noten recht gegriffen sollen werden."

[53] See Lasocki, „Listing", 471: „Noch ein vnuberzogen Futter Qwehr Pfeiffen 9 stucke, als 2 Baßße, 4 Tenor, oder Alte 3 Dißcantt."

The discant flute in a′ is documented in Germany from Agricola in 1528 to Praetorius in 1619. No other sources mention it. What features does the little flute have which may explain its use by German players? Several reasons might explain a preference, or at least provide an option, for using the little discant flute:

1. Tessitura: for pieces in high clefs, where the top part had a high tessitura hovering around e–f–g, the discant flute was useful. Its upper range was the same as that of the tenor (both played up to a‴). But the tenor's highest notes were, to quote Jambe de Fer, „crude and rude, and therefore little used".[54] On the discant in a′ these notes require fewer cross fingerings, and the sound is lighter and sweeter, than on a tenor.
2. Tone quality: the German preference for a discant in a′ may be an aesthetic one. Discant flutes had a distinctive sound, in the low octave it resembles falsetto, quiet but projecting well; in the high register, it can be tamed to play quietly, although it is a thinner, less blended sound than that of the tenors. Using three sizes of flutes does make the tuning more difficult; nevertheless, the three colours may have been preferred as an aesthetic choice.
3. Transposition: transposition upwards by a fourth is documented by Agricola in 1528; in 1545 Agricola also gives transposition up a fifth as a possibility. Virgiliano gives the same transpositions in ca. 1600. Almost as an afterthought, Agricola includes fingering charts for the „normal" pitches of a′, d′ and g in 1545, which he describes as the „most common and the easiest", but encourages his readers to „use whichever pleases you".[55] Therefore we can conclude that flutes could play in one of three ways: at written pitch, up a fourth (adding a flat) and up a fifth (subtracting a flat).

Some writers have proposed transposition in order to avoid the Eb, which must be fingered by shading the 6th hole: 123 45 ½6.[56] This fingering is shown without comment in all of Agricola's fingering charts, and flautists would have practised and mastered it. On the tenor it is generally not an obstacle, nor is it a reason for transposing. The same fingering on the discant (producing Bb), is more problematic because of the extremely small finger holes which prevent adequate venting. Pieces in which Bb appears often as a primary melodic note in flat modes are therefore not very successful with a discant on the soprano part. By transposing up a fifth, Bbs are avoided. So one use of the discant in a′ is for transposition up a fifth, by fingering the a′ discant as a d′ tenor.

[54] „[…] ilz sont fort curz, & rudes, pour lavehemance du vent qui y est necessaire, & pour ceste cause sont peu usitez […]"; see Philibert Jambe de Fer, *L'epitome musical*, Lyon 1556, 47, Reprint François Lesure in: *Annales musicologiques* 6 (1958–1963) 341–386.

[55] „Weiter mag ich nicht verschweigen / sondern noch ein arth anzeigen / der obgesagten fundament / auff Schweitzerpfeiffen jtzt genent, welchs das gmeinst und leichts geacht […] Drumb hab ich sie beid dargestelt / Nim eine welche dir gefelt […]"; MartinAgricola, *Musica instrumentalis deudsch*, Wittenberg 1545, D5′–6; Reprint in: Gesellschaft für Musikforschung (ed.), Publikation älterer praktischer und theoretischer Musik-Werke 24, 20, Leipzig 1896.

[56] See Howard Mayer Brown, „Notes (and transposing notes) on transverse flute in the early sixteenth century", *JAMIS* 12 (1986) 5–39.

Philibert Jambe de Fer says that flutes play best in flat modes, meaning music in transposed modes which have a B flat in the key signature. He also says that it is best to avoid the sharps. But fingerings for F#, G#, and C# are given in his fingering charts as well as in Agricola's, and were in constant use as chromatic inflections.[57] Transposed modes actually produce the need for frequent Ebs (on the tenor) through application of *musica ficta*: for example, „una nota supra la" in G dorian. Transpositions other than fourth or fifth were avoided on flutes, owing to tuning problems created.[58]

It is important to note here that Agricola never says that using all three sizes is the only option. His instructions do not preclude using only two, and in fact, the so-called „French" consort of Jambe de Fer works perfectly well for much of the German chorale and tenor-lied repertory, particularly pieces in G dorian mode with prominent Bbs in the soprano part. Virdung's prescription for a recorder consort may be instructive here: he suggests that a full consort of recorders should include six recorders – two trebles, two tenors and two basses – to allow for a choice of either treble or a tenor to play the alto line, depending on the tessitura and mode.[59] For consorts which are transposed up a fifth, or at pitch in modes without a Bb, the discant gives a distinctive colour and an alternative sound for some German repertory. Restricting a consort to two sizes works as a practical solution for some pieces, but the discant flute should not be dismissed.

Conclusion

This paper has brought together available documentation regarding the emergence of the transverse flute in the Swiss infantry around 1480, its first appearance at court, where it was played by soldiers for weddings and other important festivities, its subsequent adoption as a court chamber music instrument in the early years of the sixteenth century, and the development of the flute consort, especially in Germany, to 1530. I have addressed especially several controversial topics: the design and tuning of the earliest Swiss flute as compared to the consort flute, the styles of music which soldiers may have improvised, the flute as a symbol of both war and erotic love, and the role of the discant flute in German consorts. I hope that the ideas presented here add to the store of knowledge and will foster further debate.

[57] Philibert Jambe de Fer, op. cit., 47f.

[58] More transpositions were suggested by Virgiliano for cornetto and recorder: by a second, third, fourth, fifth, sixth and seventh. The flute was considered to be more limited in its choice of transpositions.

[59] Sebastian Virdung, op. cit., Q IV: „Du must wissen das man gmeinlich fier floten in eynem futeral oder sex zuosamen macht, das haisset man ein coppel zwen discant zwen tenor, zwen basß. Do must du ansehen den hochcontra ob du in ander hohe, und nydere uff dem anderen tenor mogst haben oder nit [...], hastu in uff der floten des anderen, So darffest du der kainen mer. Gatt er aber zuo hoch, So must du den anderen discant nehmen zuo dem hochcontra [...]; translation see Bullard, *Musica getutscht*, 30.