
(Sig. [A]) Musica, ${ }^{1}$ written in German and extracted [from a larger work] by Sebastian Virdung, priest from Amberg, with [instructions] for learning how to transcribe all song (alles gesang) ${ }^{2}$ from the notes into the tablatures of the three instruments named here: the organ, ${ }^{3}$ the lute, and the recorder; [instructions] presented in brief form, to honor the illustrious noble prince and lord, Lord Wilhelm, Bishop of Strassburg, ${ }^{4}$ his gracious lord.

## Musica getutscht

(Sig. [Av]) [Arms of the Bishop of Strassburg]

(Sig. A2) To the illustrious noble prince and great lord, Lord Wilhelm, Bishop of Strassburg and Landgrave of Alsace, his most gracious lord: Sebastian Virdung, priest from Amberg, offers his willing [and] humble service. Noble prince, excellent in [the sight of] God the Father, gracious lord: because at the last Imperial Diet held at Augsburg a year ago ${ }^{5}$ your princely grace saw and desired [a copy of] my versified treatise on music in German (mein gedicht der deutschen musica); ${ }^{6}$ and [because] from that time on I have also been repeatedly sought out by your princely grace's chaplain, ${ }^{7}$ my old school fellow, who exhorted me and asked me - in letters or else by word of mouth - when I would finally be finished with the book so I [could] publish it; but because a great deal of trouble and expense arises for me daily, due to which this work has been delayed and kept back for so long a time, I thought of extracting a small, abbreviated treatise out of the complete book [to give] pleasure and [to be of] service to a good friend named Andreas Silvanus, ${ }^{8}$ who almost overwhelmed me with entreaties to do so. Now that I have completed this task, I shall honor your princely grace with this [book] - before [I have brought out the other one] - by dedicating, entitling, [and] inscribing it to your princely grace, and by having published in your princely grace's name and honor that which I herewith present and offer to your princely grace. Here I beg you, with your princely grace, to accept in all graciousness, this, my little book, until I have finished the other one, at which time I shall send.it as well to your princely grace. ${ }^{9}$ With this I commend myself to (sig. [A2v]) your princely grace, as always in all meekness and humility.
Dated on Tuesday, St. Margaret's Day [15 July], 1511, at Basel. ${ }^{10}$
Beatus populus qui scit iubilationem. Psalm $88 .{ }^{11}$ David, the holy prophet spoke these words in the psalm indicated above. And the words in German are as follows: "Blessed is the people (das volck) that knows how to make the joyful sound (die iubilierung)." ${ }^{12}$ In these words the prophet promises that this people or those persons who know how to rejoice will be blessed. Then too, in Psalm $94,{ }^{13}$ he summons all of us and says, "Come exult in the Lord, and rejoice in God our Salvation and rejoice in Him with psalms." Upon consideration of such words, I find that there are two kinds of rejoicing. The first is called Iubilatio contemplativa, or the ardent rejoicing of the heart in God. The second is called

Iubilatio activa, that is, an active rejoicing. Christ spoke about the first type of rejoicing - that is, the ardent rejoicing of the heart in God - in the Gospel concerning Mary Magdalen. ${ }^{14}$ Mary chose the better part, and for that reason we too should consider this rejoicing more valuable and more important than the active [rejoicing]. But the first [type] has more to do with theology than with music. Therefore, I shall write no more about it here at this time. Rather, I shall entrust [this subject] to the scholars (den doctoribus) of the Holy Scriptures and to the clergy in holy orders. Nevertheless, Christ the Lord also accepted the active good deed of Martha; and to this end, in the Holy Scriptures we are often and frequently admonished, required, and even almost compelled to serve and praise God; and [we are] told precisely who should always praise Him: (Sig. [A3]) In the psalm Laudate dominum de $c$ [a]elis, [number] $148,{ }^{15}$ [the psalmist] begins with the angels and says, "Praise the Lord all His angels. Praise Him all His host (kreffte). Praise Him, sun and moon. Praise Him all stars and lights." [In Psalm] 149:16 "Sing to the Lord a new song. Let Him be praised in the entire Holy Christian Church. ${ }^{17}$ Let them praise His name in the chorus (in Choro); ${ }^{18}$ let them sing praises to Him in the tympanum (in Tympano) and in the psaltery (in dem psalter). Then is the Lord pleased with His people." And after that [in] Psalm 150: ${ }^{19}$ "Praise Him in the sound of the trumpet. ${ }^{20}$ Praise Him in the psaltery and the harp. Praise Him in the tympanum and chorus. Praise Him in the stringed instruments and organ. Praise Him in the sonorous [? chime] bells (in den wollautenden Zymeln). ${ }^{21}$ Praise Him in the [? chime] bells of rejoicing." ${ }^{22}$ And then [in] Psalm 97:33 "Sing sacred songs to the Lord in the harp and in the sound of the psalm. Praise Him in the slide trombone (in den zehenden Busaunen) ${ }^{24}$ and in the sound of the trumpet [made] of horn." Then, in Psalm 91, ${ }^{25}$ he says we should praise Him in the psaltery of ten strings, with song and with the harp. And in another place he says [that] He should be praised in the trumpet of the new moon (in Neomenia tuba), ${ }^{26}$ that is, with the trumpet of the waits ( mit dem Tumerhorn) with which daybreak and nightfall are announced. From all these words of the prophet, we can note how he exhorts all creatures to praise the Lord. And he tells with what kinds of instruments the Lord should be praised, enumerating them and calling some of them by their own [individual] names. And he speaks in particular to priests and those in
holy orders: "You who stand in the house of the Lord and in the antechambers of the house of Our Lord should lift up your hands day and night unto the Lord (sig. [A3v]) and praise God the Lord." ${ }^{27}$

Since, however, we are all frail beings by God's creation, we cannot all of us experience continuously the ardent rejoicing. Therefore we are bidden and commanded in so many [Biblical] passages to rejoice in God the Lord actively, that is, with instruments. And [He] demands and requires this from an entire people, whereby we should understand that He desires this not only from one person but from all who believe in Christ. And [as noted] at the beginning [of this introduction], [He] calls those who are able to do this blessed. So that there will be even more of these [blessed people] who learn this [kind of rejoicing], I have begun a brief little treatise, writing a small amount about these instruments, from which those who wish to share in such promised blessedness may take some small or tiny bit as a foundation or introduction to the instrument with which to learn [it], thereby gaining the promised eternal blessedness. Therefore we shall say with the prophet Isaiah in the thirty-eighth chapter: 28 "Oh Lord, make me blessed. And thus shall we sing our psalms all the days of our lives in the house of the Lord." To this end help us all, thou majestic maiden, eternally chaste and pure, the tender virgin and mother of God, the heavenly queen, Mary, Amen.

Below, Herr Bastian ${ }^{29}$ is welcomed by Andreas Silvanus, ${ }^{30}$ the musician (dem musico) ${ }^{31}$ with words such as the following:

(Sig. [A4v] My dear Herr Bastian! In [the name of] God, I welcome you a thousandfold! Se[bastian]: Thank you, my dear friend. A[ndreas]: How are you my dear Bastian? Se: God bless you for asking. I am still well, by the grace of God. A: I pray you (lieber), tell me where you have been for so long. Se : I have researched, investigated, and made discoveries about that [subject in pursuit of] which I have been wandering about for a long time. $A$ : What is it [you have learned]? Se: About theoretical, practical, and instrumental music. A: I have been well aware that for a long time you have occupied yourself with preparing something new and unusual, but I did not know what it was. So, unless you are keeping it as your own personal secret, I would like to ask you to tell me about it and to show it to me. Se: I would be most favorably inclined to grant you this request - and even larger ones - as long as it were to bring me no disadvantage. A: Dear friend, by [my] faith I tell you, it shall be without any detriment to you whatsoever. Let me see it. Se: It will take much effort and careful examination
[on your part]. Then too, you do not have as much knowledge of German writings and verses (des teütschen gedichts, und der reymen) as [you do] of Latin works (als der latinischen poetrey). Still, if you want to have a brief view of the drawings for the illustrations, I cannot very well refuse you this. If you wished to read through all of it, however, that would take much too long. A: I pray you, just let me glance over it briefly. $S e$ : Very well. Take it then, and have a good look at it.

A: Dear friend, you have many attractive pictures in the book. What is their purpose? Se: There are many illustrations with stories about the discovery or about the origin of music, from the Bible, and the poets, ${ }^{32}$ [and] the Christian teachers as well. $A$ : Why, then, are the organs, wind instruments (Pfeiffen), lutes, bowed stringed instruments (Geigen), and other instruments pictured in the book?
(Sig. B) Se: The [subject of] music has many divisions, and one of the parts concerns the music of instruments. These [instruments] are therefore pictured along with their names so that they will become known so much the better to each person who looks at the book. ${ }^{33}$
$A$ : How many of these instruments are there then? Se : You must divide the part of music that has to do with instruments into three categories; then you will be able to understand me. A: What are these three categories? $S e$ : The first consists of all the instruments that are strung with strings, and all of these are called stringed instruments. The second category consists of all the instruments that are sounded or piped by means of air. The third category consists of all the instruments that are made of metal or other resonant substances. A: I cannot understand that very well; explain it to me more fully. Se: Very well, I will make a second[-level] division for you [in each category].

In the first category, [that] of the stringed instruments, some of them have keys. For [these instruments] one can formulate rules ( mag man sie regulieren) with reference to these [keys], and then, by following the rules, learn to play all the instruments with keyboards in the same way. ${ }^{34}$

Clavichord (Clavicordium) ${ }^{35}$


Sirgimat

(Sig. [Bv] Clavicimbalum [harpsichord?] ${ }^{36}$ Hurdy-Gurdy (Iyra)
Clavicytherium ${ }^{37}$


## $\mathbb{C l a t i c i m b a l i t ~}$

Clauiciteriii



That [instrument] is just like the virginal, only it has other strings made of sheep's gut, and nails [i.e., brays] that make it [sound like a] harp. Like the virginal, it also has quills. It is of recent invention, and I have only seen one of them. ${ }^{38}$

Stringed instruments of the second kind do not have keys, but [they do have] frets (bünde) and otherwise fixed bounds or boundaries ${ }^{39}$ where one can have [a] secure touch - always on the courses and frets. By means of these [courses and frets], one (sig. B2) can also formulate rules and write out [intabulations] for these [instruments] from which to learn to play them. All of the instruments that follow here have [courses and frets]:

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\text { Lute(s) }(\text { Lauten })^{40} \quad \operatorname{Viol}(\mathrm{~s})(\text { Gross Geigen })^{41}
$$

## Quintern ${ }^{42}$



Stringed instruments of the third kind also have courses of strings, and one can formulate rules and write out [intabulations] with reference to these courses from which to learn to play them as well. All of the following instruments are [of this type].

Harp(s) (Harpffen) ${ }^{43}$
Hammered Dulcimer (Hackbrett)


Stringed instruments of the fourth kind have no frets, and they have only one or two courses - or three at the most - and no more. Therefore, they are not as suited to the formulation of rules and the writing out [of intabulations] from (sig. B2v) which to learn them. For [with these instruments, learning] has to come about much more from a great deal of practice and from the understanding of song (des gesangs) ${ }^{44}$ than it does by means of rules [that are] written out. Therefore I shall write the very least about these instruments; because, in addition [to this pedagogical difficulty], I consider and deem as unprofitable instruments (onnütze instrumenta) those such as the rebecs (dye cleinen Geigen) and the trumpet marine.


The instruments of music (instrumenta der Musica) in the second category are the kind that are [made] of hollow tubes through which air is blown. ${ }^{46}$ And I find these to be of two types. There are some tubes for which a person can provide sufficient air, that is, which a person can play by blowing. [There are] some, however, [that] no one is able to sound by blowing. For these, one must have bellows.

Hollow tubes of the first kind - those that a person can sound by blowing - are likewise of two types. Some tubes have holes that one opens and closes with the fingers, and the more holes they have, the better and with more certainty one can formulate rules for them, though a pipe seldom has more than eight holes. But there are some that have only three holes, some four, some five, some six, some seven, some eight.
(Sig. [B3v]) Shawm (Schalmey) Tenor Shawm (Bombard)
Schwegel $[\text { Tabor Pipe }=\text { three-holed, vertical, one-hand, fipple flute }]^{17}$
Fife [and Transverse Flute?] (Zwerchpfeiff)
Recorders (Flöten) [bass, two tenors, discant]



## Scbivegel Ziverchpfeiff


flötelı

(Sig. [B4]) Russpfeif["noisy (?) pipe"] ${ }^{4 \times}$
Krum horn ["curved horn": a curved four-holed cornett?]
Gemshorn (Gemsen horn) ["chamois horn"]
Cornett(s) (Zincken) [= straight cornett(s) ${ }^{19}$
Bladder Pipe (Platerspil)
Crumhorns (Krumhörner) [apparently discant, alto, tenor, and bass $]^{\text {s) }}$
rurspfaf
Rrum bozn 50 cmieth boztr ZZinclect


The second type [of the first division] in the second category [- that of the wind instruments -] includes the hollow tubes that have no holes, but which a person can play by blowing. As for which of these can have rules formulated for them and how one will be able to learn to play them, however, I will say no more about that here. Rather, in the other book I will say and write something on this subject [that is] new and not [generally] known.

Musica getutscht
(Sig. [B4v]) Bagpipe (Sackpfeiff) ${ }^{51}$
Trombone(s) (Busaunen) ${ }^{52}$
Military Trumpet (Feltrummet) ${ }^{53}$

(Sig. C) Clareta
Trumpet of the Waits (Thurner Horn)

## Clartta



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In this second category, that of hollow tubes, is the second kind of these instruments: those for which a person by oneself cannot provide enough air, that is, those that no one can sound by blowing. These are all the instruments for which one must have bellows:
(Sig. [Cv]) Organ (Orgel)


Positive [organ]
Regal (Regale)
Pontiture


Regale

(Sig. [C2] Portative [organ]

## 1002tatut



Anvil and Hammers (Ampos und hemmer) ${ }^{54}$
Chime Bells [tuned bells (on a frame?) to be struck with a hammer] and crotalshaped sectioned bell(s) ([both =] Zymeln) ${ }^{55}$
and Clapper Bell(s) (Glocken) ${ }^{56}$

## ZZymdnunodjlotirn


$A$ : Then what is the third category of the instruments: $S e$ : That one includes all those kinds of instruments that resound like the hammers on the anvil, from which the proportions were discovered for the first time by Tubal: ${ }^{57}$ the little bells and chime bells. To write about these ringing instruments and also about organ pipes, I would choose Boethius, ${ }^{58}$ because these have to do
with the mensur, that is, [with] the (sig. [C2v]) measurement of the tubes and the weight of the metals (like the hammer), and that is expressed through the theory of the proportions. [I have] written nothing at all about these [here], but [I am] saving [this subject] for the complete work. It seems to me, therefore, that enough has been said to you for now about the instrumental [aspect of] Music and also about the categories of these instruments and their members.
$A$ : It seems to me that the distribution of all the instruments into three categories is much too abbreviated, because I have seen quite a few other instrumenta Musicalia described and pictured. When I obtained the works of St. Jerome (opera sancti Hieronimi), I found a treatise therein that the holy father wrote to Dardanus (ad Dardanum) - in the sixty-first letter - about the kinds of Music (de generibus Musicomum), [with] many more unusual shapes or forms of instruments and with many more unusual names other than [those] you have given to the instruments of the present day. ${ }^{59}$ Therefore, if you are indeed going to write separately about each and every instrument, then it will be proper that you not leave behind, pass over, or conceal these [instruments]. $S e$ : I too have seen a few of these instruments pictured and described by my master, the late Johannes von Soest, Doctor of Medicine, ${ }^{60}$ in a large parchment book that he himself composed (co[m]poniert) and wrote out. ${ }^{61}$ But to tell the truth, at that time I took no notice of them, and I have not been to the place where the book is for a long time. I believe, furthermore, that no one is alive now who has made, heard, or seen these instruments, for they are no longer in use. I would certainly like to see them, even more (sig. C3) to hear them, and most of all, to know what they represented; because whatever Jerome wrote about things, it always had to have a second, spiritual meaning. Therefore, etc. ${ }^{62}$ A: I can show you none of the actual instruments. But I will put before you an old book in which they are illustrated and also described to some extent. If you trouble yourself to examine this [book], I will give you [my] approval, to be sure. Since you have otherwise come to know so much [about musical instruments], if you occupy yourself with them [i.e., the instruments of Jerome], [then] you can perhaps imagine how they were used better than I could accomplish this [task]. Se: Yes, my friend, I beg you, kindly show me the old book so I may see how they were shaped.
$A$ : I find three forms of harps, of which none is pictured like the one you showed me. Here they are:

Cythara of Jerome (Cythara Iheronimi)

Another Cythara of Jerome (Alia Cythara Iheronimi)

(Sig. [C3v]) Another Cythara of Jerome (Alia cytera Iheronimi)

$S e$ : The form and shapes of the three kinds of ancient harps, and of the new ones as well, are all of them triangular; and although, owing to their form, they [i.e., the old] are not exactly the same as our modern harps that are made at present, this could perhaps be the fault of the illustrator in former times (etwan). For [harps] are nevertheless also still built in the triangular shape, though the three parts, pieces, or sides of these [modern] instruments are found [to be] unequal - so that one [side] is longer than the other - and [they are] not [built in the shape of] an entirely true triangle. Yet the old and new harps do have quite a bit of
difference with regard to the strings, because the new ones have more strings than the old ones. In addition, they are also far superior in resonance, and they are made more artfully and beautifully in form for their use - for learning and playing them. And that may perhaps be the case as well regarding the other instruments about which Jerome wrote.
A: I find the psaltery depicted in two ways, [which] likewise differ from the one you showed me, as appears here:

Psaltery of Ten Strings
(Psalterium decacordum)

Psaltery of Ten Strings
(Psalterium decacordum)

## Pral dera



## $A^{\text {Imifin }}$ plad coziá <br> dera coidum

Se: I have never seen the psaltery that is still in use in a form other than triangular. But I believe and am of the opinion that the virginal was first thought to be made from the psaltery, so that nowadays it is touched and struck with keys and is made with quill feathers. In spite of the fact that this [instrument, the virginal,] (sig. [C4] is fastened into a long case just like the clavichord, it still has many other characteristics that make it more comparable to the psaltery than to the clavichord. [For example,] since one must have a separate string for each key, any string must be tuned higher than another. Therefore, in like manner, any string must be longer than another. ${ }^{63}$ Because of this, from the cutting off and shortening of the strings, there will be [a shape] like a triangle inside the case. I will have more to say about this later. But it is not strange that you show the psaltery of Jerome as a square. For the [external] shape of an instrument does not matter much; rather, only the stringing and tuning [are important]. ${ }^{64}$

A: In your division [of musical instruments] you have said
nothing to me as yet about the Tympanum, to which the Holy Scriptures make frequent reference [regarding] how it was used to praise Almighty God. I find it pictured like this: (sig. [C4v]) as a long pipe that has a mouthpiece at its upper end into which one blows, and two apertures at the lower end out of which the sound and air are expelled. And it is known that a woman was able to carry it in one hand. ${ }^{65}$ It appears here:

Tympanum of Jerome (Tympanum Iheronimi)


Se: Of this instrument I have absolutely no knowledge, because the thing called "tympanum" by us at present is [one of] the large military [kettle]drums (die grossen Herpaucken) made from a copper cauldron with calfskin drawn over it that one beats with drumsticks, so that it makes a very loud and clear noise. When the royal court summons [soldiers] to the [battle]field with trumpets (zio den felt trummeten), ${ }^{66}$ when trumpets are sounded at table (wann man zů tisch plaset), ${ }^{67}$ or when a prince rides into a city, or musters for war, or marches into the [battle]field, [these drums] are enormous tubs of great noise. ${ }^{68}$ Besides these there are also other drums that are generally beaten to [the music of] fifes ( $z \dot{u}$ den zwerch pfeiffen), like the soldiers have. Moreover, there is yet another small drum that the French and Netherlanders use a great deal along with one-hand flutes (zů den Schwegeln), especially for dances ${ }^{69}$ or for festivals (hochzyten). ${ }^{70}$
(Sig. D) Military [Kettle]drums (Herpaucken), Drum(s) (Trumeln), and Small Drum (clein paücklin) ${ }^{71}$

## Lherpauthen Inumeln unodnn paatalin



All these drums are there if you want them. They greatly disturb the peace of honorable, virtuous, old people; of the sick and ailing; of the religious in cloisters, who have to read, study, and pray. And I believe and consider it the truth [that] the devil invented and made them, for there is absolutely nothing pleasant or good about them. On the contrary, [they cause] a smothering and a drowning of all sweet melodies and of the whole of Music. I can well believe, therefore, that the tympanum which was used in the service of God must have been an object entirely different from our drums that are made today, and [I believe] that we have given that name undeservedly to the devilish instrument, which is surely not worthy of being used for Music, (sig. [Dv]) much less [worthy] of even being admitted as an instrument of this noble art. For, if beating or making a loud noise is supposed to be Music, then the hoopmakers or the coppersmiths or the coopers must be musicians as well. But that is pure nonsense. As for the Tympanum of Jerome that you are showing to me, I cannot imagine what it could be or how one used it.
$A$ : What kind of instrument, then, is the Chorus, which I find like this: it has a mouthpiece, into which one blows, and two tubes in the middle. After that, at the lower end, it has one aperture from which the sound or air exits. [It was] formed like this:
(Sig. D2) ${ }^{73}$ Farther on Jerome says that the Tuba consisted of three mouthpieces, through which the air entered. These signify the Father, the Son, and the Holy Spirit in the Trinity. And the main part, where the air or sound went out again, signifies the four Evangelists. [It was] formed like this:

Tuba of Jerome (Tuba Hieronimi)

## Tuba hitronimi



He describes [the] Fistula and draws it in the following manner: as a thing made like a carpenter's square, which is supposed to signify the holy cross, having a four-cornered object hanging from it, which is to signify Christ on the cross, with twelve pipes, which are to signify the Apostles, as do likewise the twelve pipes in the organ and also the twelve pipes in the Cymbalum (in den zymbalo). [They] appear here:
(Sig. [D2v]) Fistula of Jerome (Fistula Hieronimi)

## fiffulallyitrontimi



Organ of Jerome
(Organum Hieronimi)

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## Zymbalí Thtrenomimi



Se: Dear friend, that is enough said here about these things for the present. I can give you no further answer, because I have neither heard nor seen the instruments, nor do I know how or for what purpose they were used. A: Therefore you have not adequately looked into this subject, and [you have not] fully set forth in writing all that you took upon yourself [to cover] in your introduction [i.e., sigs. A2v through A3v - pp. 97-9 above]. $S e$ : What I undertook [to deal with] is the instruments that are now used by us in our land and nothing more. The poets [of antiquity] also had many other instruments with strange names about which they wrote. I can discover nothing about these other than that they were musical instruments (instrumenta Musicalia). But how they were formed or shaped, [whether] they were better or worse, more beautiful or more ugly, more refined or more crude than ours, no one writes precisely about this. Indeed, I could mention [these instruments] by name, (sig. [D3v]) except that what one [writer] has defined as a harp, another calls a lyre, and vice versa, and the same [is true] for many [other ancient instruments]. I
believe, moreover, that in the past hundred years, all instruments have been made [to be] so refined, so beautiful, so excellent, and so well formed, that neither Orpheus, nor Linus, nor Pan, nor Apollo, nor any of the poets [of antiquity] would have seen or heard [the likes]; nor [if they had,] could they have thought it possible that anything better could be constructed or invented.

On the other hand, one also finds many more instrumenta [that are] foolish, which are also considered or regarded as musicalia, like these:

Jew's Harp(s) (Trumpeln); Bell(s) (Schellen); Hunting Horn (Jeger horn); ${ }^{74}$ Field Horn (Acher hom); ${ }^{75}$ Cowbell(s) (Küschellen); Beater(s) on the Pot (Britschon, uff dem hafen); ${ }^{76}$ [Clappers - with bell]. ${ }^{77}$

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[There are] also many others, such as little whistles [made] from quill feathers; the fowler's bird calls, [like] quail calls, lark whistles, titmouse calls; whistles made from blades of straw; whistles [made] from the juicy bark of the tree [or] from the leaves of the tree, which, when blown, 78 (sig. [D4]) one calls mouth or lip flutes (Schwegeln mit dem mund oder mit den lefffzen); blowing in the hands as well as in keys; the xylophone (hültzig gelechter) [lit., "wooden laughter"]; and many other similar ones. All these instruments, whatever they are named or [whatever] names they might acquire, I consider tomfoolery (göckel spill) [lit., "juggler play"]. Therefore it irks me to name them, even more to illustrate them, and above all to describe them. Thus, at the present time, I will take leave of them altogether and speak only about those instruments that any peasant (eyn ietlicher paur) might know of and call by name [and] those that are serviceable to sweet
melody. Nevertheless, however, you might persuade me later on as a result of [considering] the illustrations of the old Hebrew instruments that you showed me - that I must look into [this subject] further [in order] to write something more explicit about it in the other book.
$A$ : [Well] now, if you will not speak about them in more detail here at this time, then I shall have to be satisfied with the very division [into categories] of the recognizable and serviceable instruments that you made at the beginning [of our conversation]. But, I beg you, tell me how I can learn to play the instruments. Do they all have a similar principle, so that were I to learn to play wind instruments, I would then also know how to play the lute, [the] organ, or other stringed instruments in exactly the same way?

Se: All instruments of Music as a whole are not very different when it comes to melody that is written down in notes, and whoever knows how to sing these [notes] can very easily learn to play them exactly the same on all instruments, and this [kind of] person needs no other rule. But for the others, [those] who are not able to sing [from notes], for them a (sig. [D4v]) method ( modus) has been devised - tablature - to teach them how to learn the instruments separately, according to the type and properties of each individual instrument. A: I too cannot sing anything [from notes], but I do have a strong desire to learn [to play] the instruments. Could you teach me [how to play] wind instruments, [how] to strike [the] lute, or [how to play the] organ, without [teaching me] mensural notation (das gesang) ? ${ }^{79} S e$ : I cannot teach you [how to play an instrument] entirely satisfactorily without [teaching you] mensural notation. You must learn to understand at least something of what the system (das gesang) is all about. At the very least you must learn to know the notes and the keys ${ }^{80}$ and to call them by their names. Beyond all that, [to be an instrumentalist] you would need to learn the modus componendi, that is, the art of counterpoint and of composition. I write more about this in the other book, for [in the case of counterpoint and composition], one cannot write for you in advance how you should or must apply your fingers to the holes of the pipe, or to the frets and courses of the lute, or to the keys of the keyboard instruments. ${ }^{81}$ Moreover, I do not believe that it could all be put into writing in this [book] (einer), owing to the complexity of counterpoint and
diminution. ${ }^{82}$ But if from the first (vor hin) you were to have a little [instruction in the] application of the fingers [to the various instruments], ${ }^{83}$ then with good reason I believe you capable of learning [them] right now by means of the tablature that was previously prepared. But as for learning counterpoint and playing along ad placitum upon chant (korgesang) or some other [cantus firmus], I will present that in the other book. Therefore, at this point, you may undertake whatever you wish.

A: I would like to know everything about [playing] all instruments. ${ }^{84} \mathrm{Se}$ : I think it will not be possible to learn all [of them] at once. You must practice one after the other, each one for a while [before beginning another]. (Sig. E) As I previously stated, because of the various types and properties of the instruments, except for mensural notation (das gsang), a tablature cannot be made that is completely appropriate and suitable for all instruments. Therefore, because of this difference or distinction [between the instruments], there was invented and discovered for each its own tablature that is suitable and practical for learning. And although these tablatures are not all of them quite exactly the same - that is, they are [not] one single tablature - nevertheless, they still all have many similarities with measured music (mit der regulierten Musica) and also [many similarities] among themselves. If, therefore, you have the desire to learn how to set music written in mensural notation (das gsang) from the notes into the tablature, then I will introduce you to three instruments. When you can [play] from these three tablatures, then it will be easier for you to learn all the other [instruments] later on. A: Very well. I pray you, to which ones will you introduce me?

Se: First take up the clavichord, after that the lute, and thirdly the recorder. For, whatever you learn [to do] on the clavichord you [will] then have [as a foundation] for learning how to play well and easily the organ, the clavizymell, ${ }^{85}$ the virginal, and all other keyboard instruments; next, whatever you learn about fingering and plucking on the lute you [will] have [as a foundation] for easily learning the harp, the psaltery, or the viol; [and] then, whatever you learn [to do] on the recorder you [will] have [as a foundation] for learning all the more easily later on all the other wind instruments with finger holes.
$A$ : What do you have to say, then, about the remaining instruments, such as the trombone, [the] trumpet, and the like? ${ }^{86}$

Se: As I told you, I have written "A German Musica" in diverse kinds of verses and stanzas, just as the texts of German poetic Lieder are composed. In (sig. [Ev]) this book I teach singing, solmization, and mutation by the scale of Guido (Gwidonis), and about the eight modes, as well as figured song (das figuriert gesang) and singing counterpoint on the book. ${ }^{87}$ In addition, I teach composition and whatever concerns Music and [whatever] is known to me. $A$ : From what you are saying, this will be very comprehensive. Do tell me something about it without getting into the subject too deeply - [something] in ordinary terms. Se: I will also write about all proportions - theoretical and practical - in the whole of Music, and about all instruments, not only how one is to learn them, but also what is necessary in order to learn them. And [I] will provide so many examples of these, that - I know full well - no great thanks will be earned [by me] from some who have preferred not to show or present such things to their students. But since I have come to know and understand such [subjects], I am more inclined out of compassion to lighten the burden of these youths (den selben iungen), because many a youth - who would otherwise be eager to learn something - attains [knowledge] with great difficulty; and that can possibly make it not worth the trouble. For that reason - so that in future ( mer ) none of these youths [will] have to tire themselves for as long a time as I myself was worn out, impeded, and also delayed - I will therefore make a path for them to get easily to wherever they wish; and whatever I cannot make sufficiently clear in my writing, owing to its brevity, I will make up for by the multifarious and almost numberless examples or illustrations; and [I will] present as many of these as I am aware of [that] have not yet been publicly distributed.
$A$ : Then won't you also give these examples and rules to me and write them out [for me] right now? $S e$ : I (sig. E2) cannot ruin the complete book [i.e., give away the contents of the larger Musica before its publication] for your sake. But by the time you have learned the tablatures, God willing, the rest [of the examples] will also be ready [i.e., in print]. Since I will present all examples in mensural notation alone (allein in dem gesang), whoever wishes to may then transcribe them into whichever tablature is desired, [whether] it be for the organ, for the lute, or [for] another instrument, whichever one wants to have. For now, therefore, I can teach you no more than how to intabulate, [and that] in a few
words. Then, if you wish, you may later obtain the other book as well. A: Very good. You are undertaking a large project. Take care that you follow through to its conclusion. Se: I know I can carry it out to the end, because everything - as much as I have to do for this [project] - is already prepared. A: Good, I am glad to hear it. Since you are going to extract a little treatise from this complete book - to please me, as you said; and [since] in telling me about the three instruments for which you will teach me to intabulate, you named the clavichord as the first; [tell me,] what kind of instrument is it, and how shall I learn to make one?

## Here begin the lessons

$S e$ : I will not describe how the clavichord and other instruments should be made, for that has more to do with architecture or the craft of the wood worker than it has to do with Music. However, learning the instruments according to the tablature does concern Music, and I will gladly give you instructions about that. $A$ : That is what I would like. $S e::^{88}$ I believe that the clavicordium is what Guido of Arezzo (gwido aretinus) (sig. [E2v]) called the monochord (monocordum), because of its one single string. [He] divided or measured this [string], writing and giving rules [for these divisions or measurements] according to the diatonic genus alone. ${ }^{89}$ On this subject, I find in the writings of Odo (durch den obdon geschriben), that such a monochord is a long, rectangular box, like a chest or a coffer. ${ }^{90}$ Over this a string is stretched, which, having been apportioned [into measured segments] by dividers, produces all the consonances, [which are] demonstrably known by means of the proportions. But who it was who subsequently discovered or figured out that at every point designated by this measurement, a key [could be] made that would strike the string at exactly this place or point and thereby produce just this pitch and no other besides the one of its measure given by nature at this point, that I could never discover; and who it was who thus christened or named the instrument "clavichord" after these keys, I [likewise] do not know. A: Won't you also tell me how the monochord is to be measured? $S e$ : Enough is written about that in the complete book [i.e., Virdung's yet unpublished manuscript, "A German Musica"]. In my opinion you need not know this now. For, at the present time I will teach you no more than how to intabulate for the instruments. A: Then what
[information] will you give me so that [I may] learn these tablatures?

Se: First, I will tell you about the keys and strings of the clavichord; after that, how these are to be represented in writing; and then, [how] to use these symbols in the tablature. A: Do proceed: tell me how many keys and strings a clavichord will have. Se: I cannot specify for you an exact sum that it actually must have; (sig. E3) [it has] as many as [it has], or that many and neither fewer nor more [than it has]. But since the instrument derives from the monochord, I think that it can be strung with as many strings as are desired. $A$ : If it has more than one string, then it can no longer be called a monochord. Instead, one must name it for the number of the strings - for example, "tetrachord" for [an instrument with] four strings, "pentachord" for [one with] five strings, etc. $S e$ : It does not matter that there are many strings; the important thing is that, [whether] the strings of the instrument be few or many, you see [to it] that they all are in unison (unisonum) with each other - that is, [they all have] the same pitch, not one higher or lower than the other. A: Why must that be so? $S e$ : Because the division of the entire monochord is valid only on one string, and if there were more [strings] and [if these] were not of the same pitch, then the measurements would all be false on these strings and [this] would produce an untrue tuning. $A$ : So it also suffices for a clavichord [to have] one single string. Se: No, you must of necessity have more than one. A: Why [is] that? Se: Because on one string alone no consonances can be made to sound simul et semel, that is, with each other at the same time, even though they can be heard well [when the pitches are sounded] one after another. Therefore it is necessary that there be many of these [strings], in order that one may hear on [the clavichord] the sweetness of the consonances with two pitches, with three, four, and with even more pitches [sounded] together, which one cannot do on one [string] alone.
$A$ : How many keys will it have then? $S e$ : When Guido wrote about the monochord, he considered only the diatonic genus, and for a long time the clavichord - in accordance with this [genus] had no more than twenty keys, ${ }^{91}$ like this:
(Sig. [E3v]) [Woodcut of Virdung's idea of an early keyboard]


There were others coming along later, however, who made it more refined, and who, [having] also read Boethius, ${ }^{92}$ divided the monochord according to the second genus, called the chromatic. $A$ : You are telling me a lot about the strange genera. Do tell me what the diatonic genus is, and then [tell me] about the others as well, so that I may understand even better what you are saying to me. Se: As Boethius explains it in the first book of his Musica, in the twenty-first chapter, ${ }^{93}$ the diatonic genus is [that which results] when one makes any diatessaron - which we call a fourth - out of two whole tones and one minor semitone, or out of four keys or four pitches. A: How am I to understand that? Se : Do as follows. Choose one of the keys among those that are pictured for you above, whichever you wish, and begin (sig. [E4]) to count them, either from below up to the highest, or from above going down to the lowest. Each time count four keys as a fourth. Thus, four of these keys always give you the [diatonic] diatessaron. [This] is correctly made from two whole tones and one minor semitone, except that I am omitting $b f a h m i$. I will speak about this later on, because that [note] has two keys that are counted as only one.
$A$ : What, then, is the chromatic genus? Se : [The word] $c[h$ ]roma is just another word for "color," and $c[h]$ romaticum [means] simply a colored thing. Then too, at times, something painted or nicely embellished is also called ["chromatic"]. So is it here as well in the art of Music, and the instrument is even more artfully decorated and made more beautiful by the semitones of the genus named $c[h]$ romaticum. And it is [formed as follows]: One makes this [kind of] diatessaron - any one of them - from five species (speciebus) of the minor semitone, and this [type of] diatessaron must have
[within it] every one of the six pitches or keys that make up five species of the minor semitone. ${ }^{94}$ Thus, according to the genus named "chromatic," thirteen more minor semitones (semitonia minora) have been added to the other raised keys [i.e., the black keys; namely, the two $B b s$ ] and distributed [among the white keys]. In addition, one key was made underneath the gamma ut, and, going up, one was added above the $e$ la [i.e., f"] ${ }^{95}$ Thus, counting from the lowest key directly up to the highest, three octaves are spanned. Some add another key and a semitone [i.e., $\mathrm{g}^{\prime \prime}$ and $\mathrm{f} \mathrm{\#}$ "]. Therefore [the clavichord] will generally be found nowadays with both genera [and] with thirty-eight keys, like this:
(Sig. [E4v]) [Illustration of a clavichord keyboard]


A: Then what is the third genus?96 Se : It is called [the] en[ $h$ ] armonic [genus]. But since it is not in practice or in use by organists and organ builders, ${ }^{97}$ I will say nothing about it here at present. Rather, [for now, I will] only [speak] about practical matters and nothing more.

And one thing occurs to me that I can well understand: that some who call themselves illustrious learned masters, [thus] leaving themselves open to reproach, are not able to say very much about the three genera. For I recently read a small treatise that is entitled or named The Mirror of All Organists and Organ Builders, in the second chapter of which I find that [the author] says that the organist will in that case [i.e., when transposing] be playing by means of musica ficta (per fictam Musicam). ${ }^{98}$ If this man knew what he was talking about regarding the three genera, he would not call it musica ficta, because what he deems to be musica ficta is the chromatic genus (Cromaticum genus); and, in the words of

Boethius (secundum Boetium) (sig. F) in the above-mentioned passage, [this genus has been] explained by a formula (reguliert) and by a description [that are easy] enough [to understand]. 99 [The author] should be pardoned, however, because he overlooked [this passage]. [Either] his eyes are to blame, or the mirror has become dim. It would be better if it were polished clean by organists and organ builders. ${ }^{100}$
Then too, even though many newer clavichords are found nowadays that are even larger or longer - having four octaves or even more keys - still, these [keys] are nothing other than the equivalent of a repetition of the first pitches of the three octaves; and because of this, the majority [of these larger clavichords] are made in such a way that hanging pedals (pedalia) can be added to them, and [thus] of late another category of clavichords (clavicordia) [has been] made. Because of [these variables], I have not wanted to give any total number of strings at the outset. But, in general, three strings make up one choir (uff einem kor) so that if one string should suddenly snap [lit., "leap off"], as happens occasionally, [the player] need not stop playing on that account. Then too, each of most of the choirs has three keys that touch or strike it. Take great pains never to strike two [of these] at once, for they generally make a dissonance. Several empty choirs are also added to [the clavichord] which no keys touch at all. A: Why [is] that? And with what kind of strings is [a clavichord] strung? Se: Some think the empty choirs produce a good resonance on the instrument. Some say it is done for the sake of beauty or decoration, as if, when the white iron (stehelin) strings ${ }^{101}$ and the yellow brass ones ${ }^{102}$ are strung together, that will look good. I cannot believe that it is done for the sake of beauty, but rather out of necessity. A: What necessity? Se: (Sig. [Fv]) Because by nature the brass strings sound full (grob) and the iron ones thin (cleyn), ${ }^{103}$ and since [clavichords] are now made to have as many as four octaves and even more, therefore the lower choirs are strung with brass strings and the upper ones with iron strings.
A: Then what is the purpose of the little strips (zöttlin) [lit., "tufts"] of woolen cloth on the instrument, those that are interlaced among the choirs of strings? Se: These take the noisy ringing or the coarse, unpleasant sound or tone away from the strings, ${ }^{104}$ [assuring] that they ring no longer than [the time] during which [the player] is holding down the key - for approximately one
tempus and no more. But each time, as soon as he stops [holding down the key], even in runs, the string stops sounding immediately. This is what the little cloths do. Well then, let that be enough said to you about the first instrument, the clavichord. Now, if you wish, ask for more information that will be useful to you in your learning, and I will answer you as best I can.
$A$ : You have told me enough about the instrument. Now how do I learn to intabulate for it? $S e$ : I have told you that since you are not skilled at singing [i.e., reading mensural notation], I will try to teach you by means of the tablature. For this purpose you must know that Guido of Arezzo (Guido Aretinus) prescribed and established ten lines and as many spaces (spacia), and that he labeled these for the first time with the first seven letters of the alphabet. Then [he] named these letters "keys" (claves), ${ }^{105}$ and to these keys [he] added the six notes - ut, re, mi, fa, sol, la. And he repeated these or set them again seven times. Thus is is that he has (sig. F2) made an entire word as a name proper [to each note] out of the letters of the keys and out of the repetition or resetting of the six notes, so that he might christen or name the lines and spaces. [He] labeled the first line with a Greek gamma (Gamaut) and set the first syllable of the notes [i.e., $u t$ ] to this letter, naming this line gamma and the note gamma ut. Then [he] called the first space above gamma ut: $a,{ }^{106}$ and the second note: $a$ re. After this [he] named the second line $h$ and the third note $h m i,{ }^{107}$ the second space $c$ fa ut, etc., going on upwards, as you can see in the following illustration.

There follows the musical scale or hand of Guido of Arezzo (Sequitur Scala musicalis, sive manus Guidonis aretini.)
(Sig. [F2v])


Thus, following Guido's arrangement [as shown] in the illustration, the organists ${ }^{108}$ also have their keys (claves) ${ }^{109}$ labeled with the first seven letters, as they are set out on the far left of the illustration, so that the first letter will always indicate the entire name. A: You are speaking to me about no more than seven letters? With those you want me to recognize five times seven keys and even more? How can I recognize and name so many keys from only these? Se: The organists generally have the practice of calling all of the lowest little boards "keys" (claves) [i.e., white keys], ${ }^{110}$ and the others, which are elevated a little above and [are] shorter than
the ["keys"], they call "semitones" (semitonia) [i.e., black keys]. It was the practice of Guido that he (sig. F3) notated the first seven letters of the keys with capital letters, as shown here:
 lower-case letters, like this: $a b c o$ ef $g$. The third [octave] he doubled, like this: $a \mathfrak{b b}$ sc $\mathbf{b o}$ ee $f f{ }^{.111}$ Some organists also adhere to this practice. However, there are some who make the letters of the lowest alphabet completely plain, and they underline them with a small stroke. They make the middle one entirely bare, without any addition. The third or highest they also make plain, and they draw a little line above them so that they can be distinguished [from the others], like this:

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Thus, [organists] have various ways [of indicating the different octaves], each one according to his taste. Therefore, if you wish, you too may adopt one of your own choosing, [either] the numerals or the entire alphabet of twenty-three letters, ${ }^{113}$ since there are likewise twenty-three of the lowest keys [i.e., white keys] on the keyboard. ${ }^{114}$ However, the first seven letters are more suitable for Music. Therefore, I advise you to stay with the usual practice and begin with the first key, notating it with a capital $F$, like this: $\quad 2 \mathrm{z}$. This is so you can recognize it as the deepest or lowest tone of the clavichord, and [so that] you can distinguish it from or from among the other $f[\mathrm{~s}]$, since you will have more than just one of them. And whenever you see a note in the song that is in the next space below the gamma ut, put the capital $\frac{40}{4}$ in the tablature to represent that space and that note [F].
(Sig. [F3v]) A: Then who will tell me if these notes should be long or short: $S e$ : Later on I will give you information so that you can also recognize the valorem notarum, that is, the value of the notes. But first learn to recognize, name, and notate the keys. $A$ : Then how do I notate the second and the other keys that follow one after the other, going up from the capital $F$ ? $S e$ : Some make a semitone going up immediately after the first key, but that is not the case for all organists. I will therefore keep to the arrangement of the above-mentioned number of thirty-eight keys, and these according to the keyboard [I] showed [you] [i.e., the diagram on sig. Ev4, p. 126 above]. Thus, going up after the first key, there
follows a second [key], which is named diatonic gamma ut [G] according to the system of Guido. Some organists notate [this] with a Greek gamma (Gamaut), others with a large capital letter, as appears here: $\boldsymbol{6}$. Still others make a lower-case $g$ with a little line under or through it, like this: $\boldsymbol{q}$.

The third key going up will be a semitone, and that makes or brings the chromatic $f a$ of $a$ re [Ab]. Organists call it the great post sol, and they notate it just like the gamma ut, except that they make a loop at the end of it, like this: $\mathrm{EP}^{2}$, or like this: ge .

The fourth will be a diatonic $a r e$ in the space [A], which is notated with a capital $A$ or made as a lower-case ${ }^{115} a$ with a little line below it: $\underline{\text { a }}$.

The fifth will be another semitone, $f a$ of chromatic $h m i[B b]$, and it is notated (sig. [F4]) with a capital $B$ or a lower-case $b$ with a line drawn under it, like this: $\underline{\boldsymbol{b}}$.

Now when the[se] five keys are counted one after the other, from the first to the fifth there will be [the interval of] a perfect fourth, but not [a] chromatic [one], that is, [one] in accordance with the colorful genus, since for that, one more minor semitone is needed [i.e., F\#]. However, [starting] from the second key, named gamma ut, counting upwards six contiguous keys beginning on whichever [white] key or [black] semitone you wish, from [gamma ut] up to the [top] end [of the keyboard] - you always find a perfect fourth in accordance with the chromatic genus.

The sixth key will be $m i$ of diatonic $h m i$ [B], and it will be notated with a large capital letter $H$. This is also called $h \mathrm{mi}$. Alternatively, it is made with a lower-case $h$ and is underlined with a little line: $\underline{\boldsymbol{b}}$.

The seventh will be diatonic cfaut [c], and it is notated with a large capital letter, but some make it with a little line under a plain $c: \leq$.

The eighth will be another semitone, mi of chromatic c fa ut [c\#]. It is notated just like $c f a u t$, except that a loop is added at the end, and it is called the first post $u t$, like this: $\mathbb{C l}$ or $\mathbb{C}$.

The ninth will be diatonic $d$ sol $r e$ [d], and it is notated with a large capital letter $D$ or with an underlined lower-case [letter], like this: $\mathbf{L}^{\text {. }}$

The tenth will be $f a$ of chromatic ela $m i$ [eb], which is notated [with a large capital letter $E$ or a lower-case $e$ ] with a little line
under it and a loop after it, like [this]: $\boldsymbol{\gamma} \boldsymbol{p}$. It is called the first post re.
(Sig. [F4v]) The eleventh will be mi of diatonic ela mi [e], which they notate with a bare capital letter, like this: E , or an underlined lower-case letter, like this: $\boldsymbol{E}$.

The twelfth will be $f a$ of diatonic $f f a u t$ on the line [f], which they notate with a bare [capital] $F$, or they make a little line underneath [lit., through it] like this: $\boldsymbol{P} .{ }^{116}$

The thirteenth will be $m i$ of chromatic $f$ fa $u t$ [f\#], a semitone that the organists call the first post fa, and they notate it with a loop after the letter, as appears here: fe or $\mathfrak{f e .} 117$

The fourteenth will be diatonic $g$ sol re ut in the space [g], and it is notated with a plain, entirely bare $g$, without any addition, like this: $\mathbf{S}$.

The fifteenth will be $f a$ of chromatic a la mi re [ab], and it is notated with a $g$, like the $g$ sol re $u t$, except that it has a loop at the end, like this: $\mathfrak{g e}$, and it is called the second post sol.

The sixteenth will be $m i$ of diatonic a la mi re on the line [a], [and it is] notated with a completely bare lower-case $a$.

The seventeenth will be a semitone $f a$ of $b f a h m i$ in the space [ bb ], and it is notated with a plain, rounded $b$.

The eighteenth will be $m i$ of $b f a h m i$ in the space [ $b$ ]. [It is] notated with a plain $h$ and is named the second $h m i$.

The nineteenth will be $f a$ of diatonic $c$ sol fa $u t$ [ $\left.c^{\prime}\right]$, and [it is] notated with a plain $c$.

The twentieth will be $m i$ of chromatic $c$ sol fa $u t$ [c\#'], and it is notated just like the other, with a $c$, except that it has a loop on the end: $\mathcal{C}$. It is called the second post ut.
(Sig. G) The twenty-first will be diatonic $d$ la sol re [ $\mathrm{d}^{\prime}$ ], notated with a plain $d$.

The twenty-second will be a semitone, fa of chromatic e la mi [ $e^{\prime} b^{\prime}$ ], and it is named the second post $r e$ and notated with a $d$ with a loop on the end, like this: $8 \ell$.

The twenty-third will be $m i$ of diatonic e la $m i$ [ $\left.\mathrm{e}^{\prime}\right]$, notated with a plain $e$.

The twenty-fourth will be $f a$ of diatonic $f f a u t$ in the space [ $\mathrm{f}^{\prime}$ ], and it is notated with an $f$ with a line drawn above it, like this: $\overline{\mathbf{f}}$.

The twenty-fifth will be a semitone, $m i$ of chromatic $f f a u t$ in the space [ $\mathrm{fH}^{\prime}$ '], and it is named the second ${ }^{118}$ post $f a$. It is notated with an $f$ and a loop with a line drawn above it, as: fe. ${ }^{119}$

The twenty-sixth will be a diatonic $g$ sol re $\underline{u t}$ on the line [ $\left.g^{\prime}\right]$, notated with a plain $g$ with a line above it, as: $\overline{\mathbf{s}}$.

The twenty-seventh will be a semitone, fa of chromatic a la mi re in the space [ $a b^{\prime}$ '], and it is named the third post sol. It is notated with a $g$ with a line above it and a loop at the end: $\boldsymbol{g e}$.

The twenty-eighth will be a diatonic a la mi re [a'], and it is notated with a lower-case $a$ with a line above it, like this: $\mathbf{a}$.

The twenty-ninth will be a semitone, $f a$ of $b f a h m i$ on the line [ $b b^{\prime}$ ], notated with a rounded $b$ with a line above it, like this: $\bar{b} .{ }^{120}$

The thirtieth will be $m i$ of diatonic $b f a h m i$ on the line [b'] notated with a lower-case $h$ with a line over it, like this: $\overline{\boldsymbol{b}}$.

The thirty-first will be diatonic $c$ sol $f a$ [ $c$ "], and [since] all the letters from here on up are doubled, this is notated with a double $c$, like this: cc.
(Sig. [Gv]) The thirty-second will be a semitone, $m i$ of chromatic $c$ sol fa [c\#"], and it is called the third post ut. It is notated with a double $c$, to which a loop is added at the end: cfe.

The thirty-third will be diatonic $d$ la sol [d"], notated with a double $d$.

The thirty-fourth will be a semitone, $f a$ of chromatic $e l a\left[\mathrm{e}^{\text {" }}\right]$, named the third post $r e$, and it is notated with a double $d$ with a loop at the end, like this: obe.

The thirty-fifth will be $m i$ of diatonic e la [e"], notated as a double $e$.

The thirty-sixth will be a semitone, $f a$ above chromatic $e$ la [ f "], ${ }^{121}$ notated as a double $f$.

The thirty-seventh will be the last post $f a$ [ $\mathrm{f} \mathrm{\#} \mathrm{H}^{\prime \prime}$ ], notated with a double $f$ [and] a loop at the end: ffe.

The last is notated as a double $g$. [ It] is one octave above $g$ sol re ut [i.e., $\mathrm{g}^{\prime \prime}$ ]. There you have the symbols of all the keys, and you [will] find them written out in the following drawing of the keyboard:

(Sig. G2) Now [that] I have instructed you [in this], I shall also teach you how to recognize which notes you should make long or short; and the same [things] I am now going to tell [you] de valore notarum - that is, about the value of the notes - will then also apply to all other tablatures of all the instruments. Therefore I have to set it forth for you all the more clearly, so that I will not have to write it out again later for the other instruments as well - that is, for the lute, pipe, or others - since it is enough to write it out once in a book. A: Well, I hope to improve greatly with daily practice. For that reason, tell me more. How are the notes of figured song (des figurierten gesangs) made? Se: You need to know that singers have four kinds of four-sided figures (quadratur) out of which they form all notes. These are taken from the liberal arts of geometry and of metrification - that is, the art of making verse. $A$ : What are these quadratic figures? Se: The first is called a quadrilatera [i.e., a square], the second a rhombus. The third, a rhomboid, is a patronomicum [i.e., a name derived] from the [word] "rhombus." The fourth is a quadratur altera parte longius et rectangulum [i.e., a rectangle]. A: What are you saying? How do you come to use geometry and poetry [in connection] with music? Se: I pray you, do not be surprised if you and many others do not understand much about this yet. For this reason I will reveal it and tell something that forms the foundation [for this theory]. If this [foundation] is unsound, then the whole [argument] built upon it falls. $A$ : Then, what kind of figure or note in the song is the first quadrilatera? $S e$ : The stonecutters call it a square (ein gantz fireckte figur), [one] that is equal on all sides. Singers have taken it over into music and have named it a breve for the reason that, because
they made the old ones all black, and since they are thus made the most simply and quickly, therefore they are called brevis. (Sig. [G2v]) But, in order [to see] that this is so - that they are made or written the most quickly - take a dull, wide feather [pen] in your hand and pull it a bit forwards. This way, in one little stroke, the pen gives you the square (quadratur), like this: $\boldsymbol{m}$. [The reason] that little lines are put on the sides, sticking out, is only in order that the sides be seen so much the sharper in appearance, like this: . But as for why the notes are now made white in the middle, the reason may be that, as music in mensural notation (das gesang) has become so popular, were everything written with black notes, then parchment could not everywhere be had; moreover, since [ink] soaks through paper very readily, it would be necessary always to make the notes at all times on only one side, which takes too much paper. ${ }^{123}$ Another reason may be that when black notes were used for those that we make white today, at that time all the notes that we now color [black] - as is [a] necessary [notational] symbol now and then in perfect or triple time - [all these] were written in red ink, and thus the notes were made with two colors. Since not everyone can carry red ink with them at all times, [white notation] was therefore considered useful and came into practice. Then too, the main reason may be [that] these and the other shapes or forms of the notes [were made] according to the pleasure of the founder [of white notation]. As Juvenal put it, "Sic volo, sic iubeo, sit pro ratione voluntas." ["I wish it, thus I command it; let my will stand in place of a reason."] ${ }^{124}$

But [as for] why the note called brevis is (or is worth) one tempus, that is [explained] as follows: When the consonances were discovered, a [length of] time also had to be devised for how long or how short any of them should or had to be held. (Sig. G3) Thus [one tempus] was considered a proper [length of] time to endow with sound, neither too long nor too short, but taking up a medium length. So, precisely the note brevis was fixed as the middle, always constant, like the positivus in comparison (in comparatione) with the larger and also [in comparison] with the smaller or shorter. [As an] example (exemplum) in comparison with the greater or larger, take the breve for the positivum as the lesser in comparison, the longa for the comparativum as the greater, the maxima for the superlativum as the very largest. On the other hand, take the breve as the greater or larger in comparison with
the smaller, the semibreve for the comparativum, that is, for the lesser or smaller, the minima for the superlativum as the very smallest or the [very] least. There you find that in all positions the breve is the middlemost among the notes, and that it most fittingly [has] the name "tempus," that is, the measured time belonging to it. Just as this note $\boldsymbol{\theta}$ is considered and written as the simplest in mensural notation (in dem gsang), ${ }^{125}$ so it is also notated in the tablature as the simplest and smallest little dot [put] over the letters of the keys of the clavichord, like this:

## 

A: You are telling me about strange things. What kind of shape is a rhombus? Se: The geometers call it a diamond. Following them, the singers have found that when a square [placed] upright like a diamond inside a second square (sig. [G3v]) is measured with dividers, then the diamond will be exactly half of the perfect square. And if the other four parts of the whole square that remain next to the diamond are put together, then these four parts will be exactly as much as, as big as, and not less nor more than the diamond. So they have named this diamond a semibreve because it is the half part of a square. Two of them make one tempus, or one measured duration, or one beat, as some say.

## - シ

These semibreves, and all other notes of this name that are made or found in ligatures or elsewhere, are always notated in the tablature with a plain stroke above the letters of the keys of the keyboard. For example (Exemplum):

## abtekdyd

$A$ : What kind of shape, then, is a rhomboid? $S e$ : It is just as if two or three diamonds following after each other downward in succession were fastened together. Geometers have called it oblique-angled (geschmiget) [i.e., a ligature], and the singers have considered it as two notes. A: Why should these oblique figures
represent two notes, unlike the others? Se: For the reason that the figure hangs below itself and cannot be situated on [only] one line or space; [thus] it has to touch another one as well. If this were not the case, it could not be recognized as oblique, and then it would have no differentiation from the oblong shape [i.e., the maxima]. These [two kinds of notes] would be too similar or alike, so that one could hardly distinguish one from the other. But since these oblique [notes] and also the oblong quadratic [ones] are not used in our tablature, for the reason that no (sig. [G4]) maxima or longa is set as a whole in the tablature (instead these are always divided into as many tempora as they are made up of or are worth), I will therefore say no more about this [kind of note] either, until I come to write about the formation of the notes (de formatione notarum). Owing to its [durational] value, however, nothing will be found in the tablature that is longer or larger than the symbol of a tempus - that is, of a breve - as represented by a little dot in the tablature. And after this dot [comes] the symbol for a semibreve, which is a plain, long stroke. Since I still have to show you as well how to recognize the remaining large notes of polyphonic music (des gesangs) in ligatures (so you can divide them [into separate tempora] and transfer them or put their equivalents into the tablature), I must therefore begin again to speak about the first four-sided figure, [telling] what notes are formed one from the other and how [they are formed]. You will thereby also meet with the remaining oblique-angled and oblong notes, [as well as with] matters that concern them. And so once more, I will take into consideration this first quadratic figure. I find that three kinds of names and notes are formed out of [the square].

The first case is that in which one puts a tail on a breve [i.e., on a square-shaped note]. One must notice initially on which side of the note this tail is situated. If you find it appearing on the right side as it faces you, [whether] the tail is above it or below it, then this is a longa, like this:
(Sig. [G4v]) However, if you find a tail on the left side of the breve [i.e., on a square note], then you must consider whether the tail is made to stand above or below [the note]. If it stands above
it, then another note must be attached to it. This attached note may either go above or below the first note with the tail. [In either case,] these first two notes are always two semibreves, like this:

$$
x_{a}
$$

Furthermore, if the first note with the tail above it is a square note, and the next following after it is an oblique-angled one, and [if] there are as many notes as desired attached to one another, in that case the first two would still always be two semibreves: like this:


And this is also true with respect to the tail going upwards on the left side above the oblique-angled notes; for the first and second [notes] would both together constitute [one] oblique-angled note, and [no matter how] many more notes are attached to them, the first two would always be two semibreves, like this:


On the other hand, if you find a tail on the first square note (which is one tempus or one breve), [and if] a tail descends at the start [of the ligature] on the left side, then another note must always be attached to the first - either a square note or an obliqueangled one - and it must be attached below it and not above it. In this case the first note is always a breve, [whether] many or few square or oblique-angled notes are attached to it, like this:
問
(Sig. H) And this is also true of the tail when it descends on the left side at the beginning of oblique-angled notes. In this case, the first is always a breve, like this:


But when the first square note, the breve, stands alone, then it always remains what it is - a breve. If one attaches another note to it, however, and if this second attached note stands lower than the first square note, then the first is always a longa, like this:


And this is also true of the oblique-angled notes when they stand completely free without a tail. Then the first is always a longa, like this:


I must tell you one more thing about the first of the fourcornered quadratic figures, which is a breve. Whenever you find one of these square notes as the last note in a ligature, and this note hangs down below the previous one which is square, then this last [note] is always a longa:

In addition, you should know that in any ligature the third, fourth, fifth, sixth, seventh, eighth, etc. are always breves except if it is [the case] that the last note is a square note and it hangs down below the previous [one]. Then this late [note] is always a longa, like this:
(Sig. [Hv]) Then too, if the first two notes at the beginning [of the ligature] are two semibreves, and the third note, a square one, hangs below them, then this third note would be a longa, like this:


When, however, the last note in a ligature is square, and it rises above the penultimate note, then this late [note] is always a breve, like this:


And although I have said above that there is nothing in the tablature longer or larger than the tempus alone, nevertheless I consider that this [tempus] is the same as if it were something of a continuous quantity (de quantitate continua), which in increasing or augmenting becomes finite, but [which] by diminishing becomes ever smaller the longer [it is diminished], almost up to infinity (Infinitum). ${ }^{126}$ Therefore, I must speak again about the diamond, which the singers call a semibreve; and [I] will form the other notes from it, as [I formed] the diamond from half the perfect square. Each [type of note] is reduced progressively by half. And [I will] explain [it] as follows: if you find a tail on a diamond (that is, on a semibreve), whether it is above it or below it, [the note] is worth the same. This is named a minim ( minima) by the singers, and it is notated by instrumentalists with a little hook. The little hooks, then, have the value of one quarter of a beat or [one quarter of a] tempus, like this:

(Sig. H2) Then, if you find this minim blackened, it is called a semiminim (semiminima) by the singers. Instrumentalists notate
them with two little hooks, and they have the value of one eighth of a tempus, like this:


But if in the music (in dem gsang) you find black diamonds, with a tail and a little hook on [each one], the singers call this a fusa (fusele). Instrumentalists notate them with three little hooks. These, then, have the value of one sixteenth of a tempus, like this:

$$
l l^{\circ}
$$

Then, if in the music (in dem gsang) you find this fusa with two little hooks, the singers call them half ${ }^{127}$ a fusa [i.e., a semifusa]. So instrumentalists notate them with four little hooks, and they have the value of one thirty-second of a tempus, like this:

$$
2 N
$$

You can now recognize all the notes, whether they be of the simple or of the figured [variety], single or in ligatures. Yet [for these] you have no more than the six kinds of symbols that you can use for all instruments and their tablatures, like this:

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\cdot 110 F
$$

A: You have told me about four shapes of quadratic figures, and you have written enough about the first three of these [that is, the square, the rhombus, and the rhomboid]. What happened to the oblong quadratic figure? Which notes are formed out of this [one]? And, although you (sig. [H2v]) have just now named all of them for me, and [thus] I am quite familiar with them, who will tell me the value or worth of each one [of these long notes]? Se: Your question is well put, because I have told you nothing in particular about this oblong figure. You should, however, notice
that the singers hold this figure sometimes three [longas] or [sometimes] four breves [i.e., two imperfect longas] in length. [They] make a tail on the right side of this [note], [either] below it or above it, as that stands for the same thing. [They] call this note a maxima. No other notes are formed from it, because it always stays what it is:


They should always be divided into tempora (per tempora) in the tablature [when transcribed] from the staff notation (aus dem gesang). But as you are asking for more information, [namely] how you can recognize what each of the notes is worth, I [will] tell you that this cannot be known without certain special external or internal signs. In addition, there is a great deal more that you would need to know concerning figured music (de musica figurativa), all of which I am saving for the other book. It will require a full ten chapters about modus, tempus, and prolatio (de modo, tempore, et prolatione), as well as other things. Were I to tell you about all these things here, then what would I have left to write about in the complete book for you and [for] others after you? Therefore, since at this time I cannot bring everything into the little treatise - owing to its brevity - let this suffice for the time being; and, in the meantime, choose no composition (keinem gesang) to intabulate other than one that is notated in imperfect time (de tempore imperfecto), in which [case] each maxima is worth four tempora, like this:

## $\ddagger\rceil_{\text {wex }}$

(Sig. H3) Any longa [is worth] two tempora; and that is taken from the art of metrification.

## "m

Any tempus [sic] [is worth] two semibreves, like this:

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\boldsymbol{\omega} \nabla \boldsymbol{0}
$$

Any semibreve [is worth] two minims, like this:

## 06

Any minim [is worth] two semiminims, like this:
!!!

Any semiminim [is worth] two fusae, like this:

$$
1 . \pi
$$

Any fusa [is worth] two semifusae, like this:


You also have four kinds of rests. A breve rest is notated in the tablature with a stroke down from the line, like this: $T$.

A semibreve rest is made with a little stroke going up from the line, like this: $\perp$.
(Sig. [H3v]) A minim rest is made with a little hook on the line, like this: 1 .

A semiminim rest is made with two little hooks on the line: 1.

One can hardly rest for a shorter length of time; therefore at this point I will take leave of this [subject]. I will [proceed by] giving you brief instructions about the dots in mensural notation (des gesangs).

First [you should] know that [this] notation has two kinds of dots. The first is called punctus additionis [dot of addition], the second, punctus divisionis [dot of division]. The first, Punctus additionis, is always worth half of the note after which it is placed.

If it is put after a maxima, then it is worth a longa; if it is put after a longa, then it is worth a breve; if it is put after a breve, then it is worth a semibreve, and so forth. And it must always be sung. ${ }^{128}$ The second dot, divisionis, has no place here, because it only [is used] in perfect time. It is never sung, and it should always be placed before the note that it separates [from other notes].

Some people, however, assign three or four different names to the dots, saying that one is the punctus perfectionis [dot of perfection], the second punctus divisionis, the third punctus alterationis [dot of alteration], and the fourth punctus additionis. They make many words [i.e., complications] for [all] this. On this subject I say that, as far as I am concerned, the two dots, divisionis and additionis, are entirely sufficient. For, the punctus divisionis is not to be used or set anywhere except in modo majori perfecto [i.e., where the maxima equals three longas], in modo minori perfecto [i.e., where the longa equals three breves], or in tempore perfecto [i.e., where the breve equals three semibreves], or in prolatione perfecta [i.e., where the semibreve equals three minims], and also in several proportions about which I shall speak later on. Since what is divided [by a punctus divisionis] needs no further alteration [by a punctus alterationis], and [since] a perfection is always (sig. [H4]) recognized by the punctus divisionis [thereby requiring no punctus perfectionis], and [because] there are even more of these [notational] symbols [in these time signatures] than little dots for example, the symbol for coloration, that is, the blackening of the notes, and also of rests, and of the ligatures as well - therefore I will leave it at the two [types of] dots. Someone else may call them whatever he pleases. Let that be [enough] said to you about the notes as well as about the rests and dots of imperfect time signatures. This [should] satisfy you until the other book is completed.

Now, I will place before you a short song (eyn kurtz lidlin), [written] in notes, and after that [I will] transcribe the same [composition] into organ tablature. Let that be enough said to you about the organ or about the clavichord. ${ }^{129}$ Now look at the little song and do likewise with a second composition (mit dem andern gesang) that you wish to transcribe.

The following little song (liedlin) ${ }^{130}$ was made from the three responsories of Our Lady. The first verse is the responsory "Sancta
et immaculata virginitas." ${ }^{131}$ The second is "Suscipe verbum virgo Maria." ${ }^{132}$ The third is the responsory "Felix namque es sacra virgo Maria." ${ }^{133}$
(Sig. [H4v]) [Tenor part of the musical example]


O Holy, immaculate, tender virginity of Mary!
With what praise and elegant [words] shall I speak of thee; for truly thou hast
Carried to birth, there within thy womb, in corporeal weakness,
The very One whom even the heavens could never contain.
Receive the word, thou most precious treasure, Mary, pure virgin,
Which Saint Gabriel announced from God to thee alone: that
Thou wouldst give birth to God, Our Lord, with all grace. Therefore we rightly say
That of all women everywhere, thou art the most blest.
Blessed and holy art thou, O Virgin Mary;
Thou art also the most worthy of all praise: thus do I esteem thee!
For from thee, beloved [maiden] has now arisen the sun of righteousness,
Even our Lord God, Jesus Christ. Pray for us, as I trust [in thee].

## Musica getutscht

(Sig. I) [Cantus, Altus, and Bassus parts of the song]

(Sig. [Iv]) [Keyboard intabulation of the preceding song] ${ }^{134}$

(Sig. [I2]) [Conclusion of the keyboard intabulation]


The little song, "O Holy, immaculate, tender virginity of Mary," ends here. ${ }^{135}$

(Sig. I3) ${ }^{137}$ A: Since you are breaking off [the discussion] so abruptly, and, as always, referring me to the complete book, I too must therefore leave it at that. But how shall I learn to intabulate for the lute? Se: The first thing you must know in learning how to intabulate for the lute and how to play [it] is how many strings or courses you wish to have on it. Secondly, [you must know] how many frets you will have on it. Fourthly, you must learn to write out or notate [the symbols for] the neck. Fifthly, [you must] learn how these [alphabetic] symbols [stand] for the letters in the scale or in the hand of Guido, according to the two genera of music [i.e., diatonic and chromatic]. Lastly, [you must learn] everything that you will encounter in a composition in imperfect time (in dem
gesang de tempore imperfecto), in order to transcribe it from the notes into the symbols or the letters that you find written out on the neck and in the [Guidonian] hand or scale, following the length or shortness of the notes, just as you have previously heard with reference to the clavichord [sigs. G3-H3v, pp. 135-44 above]. All this I will teach you in very few words, after which I will show you this in illustrations for [your] inspection, so that you can easily understand me.
$A$ : Then tell me, how many strings or courses will there be? Seba: Some lutenists play on nine strings, which have only five courses; some play on eleven strings, which have six courses; some play on thirteen strings, or fourteen, and these have seven courses. You may decide for yourself whichever of these you wish. As I have four types of tablatures in the large book, you may also select the one out of all of them that you [would] like. ${ }^{138}$ I will teach you according to that one. (Sig. [I3v]) A: I pray you, advise [me] about this. How many strings should I choose? And, after that, which is the best of the tablatures to learn? You are in a better position to inform me about this than I am to choose. Therefore, I suggest that you present one of these to me, and I will learn according to that one. Se: It seems to me that nine strings are too few to learn; [and] not all lutes have thirteen and fourteen strings. I advise, therefore, that you take up a lute with eleven strings, [a type] that is found almost everywhere. I will present to you a tablature for it that is the most common and best known.
$A$ : I am most satisfied with this. Tell me at once about the lute with eleven strings. $S e$ : First you must know that the eleven strings are distributed among six courses, always two strings for each course, with the sole exception of the sixth course (die quintsaitte) [lit., "the fifth string"], ${ }^{139}$ which normally has only a single string to its course. Each of these six courses has its own name. A: What are the names of these courses? $S e$ : The first course is named the "great rumbler" (der gross prummer), and it is strung with one large or thick string. The second course is called the "middle rumbler" (der mittler prummer), and it is also strung with a coarse or thick string, but [one that is] somewhat thinner than the first. The same is also true of the third course [which is] strung with a coarse string, but somewhat thinner still, and it is called the "small rumbler" (der clain prummer). For these three [courses called] rumblers one adds to each large string another string of middle
size, and one stretches or tunes each of these [middle-sized strings] one octave above the [large] rumbler [string] with which it is paired. A: Why is this done? (Sig. [I4]) Because, although they are coarse and big, one cannot hear at a distance the large strings sounding nearly as loud or as strong as the small or the higher [strings]. For this reason one adds the octaves, so [the lower three courses] are heard the same at the other ones. A: How, then, are the other three courses made? $S e$ : The fourth course is strung with two middle-sized strings, of which neither is larger or smaller [than the other], and neither is tuned higher or lower than the other. Rather, they must be in unison (unisonum), that is, have the same pitch. And this fourth course is called the "great singing string" (die gross sancksaytt). The fifth course should also be strung with two equal strings. And it is not bad if these are somewhat thinner than the strings of the fourth course, and both should also have the same pitch. This fifth course is named the "small singing string" (die claynen sancksaitte).

A: How, then, does one string the sixth course? Se: With one pure, good, even string. And, you may recognize it [i.e., a good string] in the following manner. When you open a little bundle of strings, choose the string that it as long as you need it for the lute, and stretch a bit of it between both of your hands. Then hit the string with your thumb so that it vibrates and rumbles. Then, as it vibrates, the less you see the repercussions or [multiple] appearances of this string, the better it is; the more you see it, the worse it is. It has a course of its own, which is called the "quintsait." [This string is tested] like this:
(Sig. [I4v]) [Woodcut of two hands testing strings]


All these strings of the lute should be strings that are made from the gut or from the intestines of sheep, although Boethius and other musici call them nervis, as if they were made from the sinews of the animals. It may, perhaps, have been [the case] in former times that they were made out of sinews, but at the present time these strings for the lute, as well as [those] for the viol and the rebec (der grossen und clainen geigen), and for the harp, and for the harpfentive, ${ }^{140}$ [and] also for the trumpet marine, are all made solely from sheep's gut. But some other instruments have brass strings, and some [have] iron strings (stehelenen saiten). ${ }^{141}$ It will not be possible for these [metal strings] to be used on the lute. For if one presses down [metal strings] on the [gut] frets with bare fingers, [the metal strings] will not sound as good as if one stopped them with iron or wood [frets]. You must therefore know the difference [between kinds of strings] and give to each instrument [the type] that belongs to it and no other.
(Sig. K) A: Very well, you have told me how I should string ${ }^{142}$ the lute, [and] also how to name the strings and the courses with their own individual names. Now tell me as well how I should set or tune them. Se: Some lutenists set the first course (which they name the great rumbler) a fifth below the middle rumbler. But [since] this is not the practice of all lutenists, I will therefore not bother to write it out. Instead, [I shall speak about] the practice that is current in our time. And this practice is found as follows: each course is always tuned a fourth above the other, except for the small rumbler and the great singing string. Only these two are tuned or placed a diatone away or apart from each other; that is, [they are separated by] a major third, which is made up of two whole tones. And so that you understand this correctly, tune it as follows: as if the pitch of the first course - which is named the great rumbler - were $a r e$ in the space (in spacio) [A], then [as if] the pitch of the middle rumbler - the second course - [were] $d$ sol re on the line (in linea) [d], then [as if] the pitch of the third course, or the small rumbler, [were] $g$ sol re ut in the space [g]. Each of them is a fourth from the other, thereby synaphe, that is, joined (coniunctim) or connected or attached to each other. Now going on from the third course - from the pitch of the small rumbler (that is, $g$ sol re $u t$ ) - to the fourth course, the great singing string should be [tuned] a third higher than the small rumbler. This will be $m i$ of $b f a h m i[b]$ and is diezeüsis, that is, disconnected
［disiunctim］from the other．After that，tighten the small singing string［so that it is］a fourth higher than the great singing string， which brings you ela mi on the line［ $\mathrm{e}^{\prime}$ ］．After that，tighten the last course［so that it is］a fourth higher than the small singing string， which brings you a la mi re in the space［a＇］．The six courses are strung in this way，as you can see in this illustration：
（Sig．［Kv］）［Woodcut of lute strings with relative pitches and the intervals between them］

a la mi re
e la mi
b fah mi
g sol re ut
d sol re
are

| fourth | 婁 | conjunct |
| :---: | :---: | :---: |
| fourth | 克 |  |
| third | 违或． | disjunct |
| fourth | $\stackrel{*}{*}$ |  |
| fourth | $\stackrel{\text { 苞 }}{ }$ | conjunct |

（Sig．K2）A：I now understand this very well．Do go on and tell me：how do I learn to intabulate for the lute？$S e$ ：To begin with， you must know about the number of frets．In addition，［you need to know］how the neck is notated，and［you should know］what ［strings］one must finger or not finger，strike or pluck．A：I can
certainly bear these things in mind; therefore, I wish to be instructed. Se: Lutenists generally have seven frets on the lute. With eleven strings on the seven frets, and also on the open courses, they have [available the notes] from a re [A] at the bottom going up to the $e$ la [ e "] including all the pitches of the two genera of music, named diatonic and chromatic, as I showed you before with reference to the clavichord. In addition, they have the unisons [of these pitches] several times, except for some of the very lowest ones, that is, the pitches of the biggest rumbler, namely, from a re [A] up to $d$ sol re [d]. As you will hear later, the same [is true] of several upper ones on the high part of the quintsait. And [one has unisons] for the following reason: when, from time to time, one fingers a pitch on one course and another consonance must be played that would also be found on the same course, then, a unison must be sought on another course, so that the consonant [note] rings or sounds at exactly the same time with the other [note] and not after it, as I also explained before about the strings [played] in combination (eynigen) on the clavichord [see sig. E3, p. 124 above]. A: I am very much surprised that there should be as many pitches on the lute as on the clavichord, and both genera as well. Se: Yes, you have all the pitches of both genera on half of the neck. And, in addition [you have] almost all the unison pitches on the rest of the neck, and on the quintsait nearly an (sig. [K2v]) octave up to the rose (biss zů dem stern) above all [the] frets. $A$ : Show this to me, and teach me how to write out the symbols for the neck.
$S e$ : The practice of lutenists in this: They notate with five numerals the six courses that I have just set forth for you to learn. This [notation] was devised for nine strings. But for eleven strings they duplicate the [number] one and say that the number for the great rumbler is called the "large [number] one." To differentiate it from the "little [number] one," they make a long stroke with two little dots, like a crown, on top of the long stroke, like this: $\boldsymbol{T}$. And they do not press down with their fingers any of these courses, or the numerals [that represent them]. Instead, [lutenists] allow these courses to give the pitch that they have by nature when they are struck. Thus, this [written] stroke, which signifies one in numbers, $\boldsymbol{\Gamma}$, always signifies are [A] in the tablature.

They do the same with the middle rumbler, [giving the open pitch] a plain or bare numeral that stands for "one" in numbers,
like this: 1. And they call it the "little [number] one," which also signifies the [pitch] $d$ sol re [d]. [It is] unstopped and unfingered in the tablature.

As for the third course, which is named the small rumbler and is $g$ sol re $u t[\mathrm{~g}]$, they notate it with a number that signifies "two" in numbers like this: $\mathbf{2} .{ }^{143}$

They notate the fourth course, which is named the great singing string and $b f a h m i[b]$, with a numeral that represents "three" in numbers, like this: 3 .

They notate the fifth course, which is named the small singing string and e la mi [ $\mathrm{e}^{\prime}$ ], with a numeral that signifies "four" in numbers, like this: 4.

They notate the sixth course, which is the quintsait and a la mi $r e[a$ '] in the space, with a numeral that signifies "five" in numbers, like this: $s$.

And you see before your eyes [these numerals] applied to the neck [of the lute].
(Sig. K3) [Woodcut of the open courses of the lute with their names, relative pitches, and notational symbols]


(Sig. [K3v]) A: Now, how do I notate [the other positions on] the neck? $S e$ : I hear that there was a blind man born in Nuremberg and buried in Munich, named Meister Conrad from Nuremberg, ${ }^{144}$ who in his time was famous and praised above other instrumentalists. He directed that the entire alphabet be written [crosswise] on the five courses and on the seven frets of the neck. And when it had been used once, he started again from the beginning of the alphabet and doubled all these letters for the second alphabet. From this I can understand that he had no more than nine strings on the lute. But there are several other kinds [of tablatures] that [developed] after [this one] - which I have seen in part from reports of the earliest originators [of these updated
tablatures], who also used this tablature in the same way as he [Meister Conrad] introduced it, but with two strings that is, a sixth course - added to it. ${ }^{145}$ For the letters of the sixth course, which is now named the first [course] or the great rumbler, they have exactly the same letters as are notated for the middle rumbler, except that they have written these letters as large capitals (grosse versalia) on the [new] course and on the frets of the lute. These [letters] - for fingering, striking, and plucking - are named the "capital A," the "capital F," the "capital L," the "capital Q," the "capital X," the "capital AA," [and] the "capital FF," as you can see in the illustration:
(Sig. [K4]) [Woodcut of the neck of the lute with tablature symbols on the courses and frets]

| 5 | e | k | p | v | 9 | ee | kk | ll |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 4 | d | i | o | t | と | dd | ii |  |
| 3 | c | h | n | s | z | cc | hh |  |
| 2 | b | g | m | r | y | bb | gg |  |
| $\mathbf{l}$ | a | f | l | q | x | aa | ff |  |
| i | A | F | L | Q | X | AA | FF |  |

(Sig. [K4v]) A: Thus far I have learned a number [of things] from you: about the six courses and the seven frets, and also [about] the writing out of the letters, the numbers, and the alphabets. Now, how am I to know where or how far from the others I should put or set each fret? Se : It is not easy to describe how far any [fret] should or must be from another. Although one may write out the measurement exactly according to the proportions, nevertheless [placing the frets] is entirely uncertain. For the neck usually has seven frets (and each course has its own open pitch as well), and according to some [people], [there is] a semitone (semitonium) between one fret and the next. But, as Boethius states, a tone (tonus) cannot be divided into equal semitones, because a tone is based on the sesquioctava proportion (in proportione sesquioctava) that is, the relationship of nine to eight - and between eight and nine there is no number that is a mean. ${ }^{146} \mathrm{~A}$ : That is difficult for me to understand; therefore, explain it better for me. $S e$ : It belongs in school, as some state who otherwise cannot say anything about it. Therefore, I too will save it for the other book. Notice here only that the lute has seven frets.

Now [then], on [to] the seven frets and six courses: It is the common practice of lutenists that the first pitch of the great rumbler, [the] open, unstopped, and unfingered [pitch], is named diatonic are [A], and that are, or the pitch of the string, is notated with a long [written] stroke that properly carries two little dots upon it, like a little crown, which [symbol] represents "one" in the science of numbers, like this: $\mathfrak{i}$. And that is called the "large [number] one." Now from this lowest pitch of the great rumbler counting up, (sig. L) I will teach you to find all the pitches of the above-mentioned two genera and to notate [them] as they go up gradatim (or one after another) to the highest pitch of the seventh fret of the sixth course, which is named the quintsait. And, although I could show you enough by means of the illustrations or with my hands [to enable you] to understand this easily, nevertheless I must write these things out fully to please the others, so that anyone who cannot accomplish such [a task] for himself from the illustrations can put the illustrations in front of him and then read about them in the little book until he can understand this.

And now, if you wish to go up from a re, then finger and strike or pluck the first course, which is called the great rumbler, on the
first fret [lit., "in the first zone"]. This gives you $f a$ of chromatic $h$ $m i$ on the line [ Bb ]; and it will be notated with a big $A$.

After this, finger and strike the first course on the second fret, which gives you $m i$ of diatonic $h m i$ on the line [B], and which is notated with a 2 written in front of a big $f$, like this: $[2] \mathcal{f}$; and it is called the "big 2F."

Finger and strike the first course on the third fret, which gives you fa of diatonic cfaut [c] and which is notated with a 2 in front of an $l$, like this: $2 \mathcal{L}$; and it is called the "big 2 L ."

Finger and strike the first course on the fourth fret, which brings you mi of chromatic ca fa ut [c\#]; and it is notated with and named a big $Q$.

Finger and strike the first course on the fifth fret. With this you will hear diatonic $d$ sol re [ d ]; and it is notated with a big $X$ and is a unison [unisonus] with the "small [number] one."

Finger and strike the first course on the sixth fret. Thus you will find fa of chromatic e la mi [eb] in the space; (sig. [Lv]) and it is notated with a doubled large $A$ and is a unison with the small $a$.

Finger and strike the first course on the seventh fret. Thus you find $m i$ of diatonic e la mi [e], which is notated with a doubled capital $F$, written following a 2 ; and it is a unison with the small $f$.

THE SEGOND COURSE
Now, going on, strike the open, unstopped second course, and do not finger it. This produces diatonic $d$ sol $r e$ [d], and it is notated with a small ${ }^{147}$ [number] "one," like this: $I$.

Finger and strike the second course on the first fret. This brings you fa of chromatic ela $m i[\mathrm{eb}]$ ], and it is notated with a small $a$.

Finger and strike the second course on the second fret. This brings you $m i$ of diatonic ela $m i[e]$, and it is notated with a plain small $f$.

Finger and strike the second course on the third fret. This brings you fa of diatonic ffa ut on the line [f], and it is notated with a plain small $l$. It has no unison.

Finger and strike the second course on the fourth fret. This brings you $m i$ of chromatic $f f a u t$, on the line [f\#], and it is notated with a small ${ }^{148} q$. It has no unison.

Finger and strike the second course on the fifth fret. This brings you diatonic $g$ sol re $u t[g]$, and it is notated with a small $x$. It is a
unison with the independent number that signifies "two" in numerals [i.e., the open third course].

Finger and strike the second course on the sixth fret. That brings you fa of chromatic a la mi re [ab], and it is notated with two small $a s$. It is a unison with the small $b$.
(Sig. L2) Finger and strike the second course on the seventh fret. This brings you $m i$ of diatonic a la mi re [a], and it is notated with two $f$ s. It will be a unison with the small $g$. And there you have the second course.

## THE THIRD COURSE

The unstopped, unfingered third course produces diatonic $g$ sol $r e$ $u t[\mathrm{~g}]$ in the space, and it is notated with a numeral that represents "two" in numbers like this: $\mathbf{2}$.

Finger and strike the third course on the first fret. This brings you fa of chromatic a la mi re [ab], and it is notated with a small $b$.

Finger and strike the third course on the second fret. This brings you $m i$ of diatonic a la mi re [a], and it is notated with a small $g$.

Finger and strike the third course on the third fret. This brings you $f a$ of $b f a h m i[\mathrm{bb}]$, and it is notated with an $m$.

Finger and strike the third course on the fourth ${ }^{149}$ fret. This brings you $m i$ of $b f a h m i[b]$, and it is notated with an $r .{ }^{150}$

Finger and strike the third course on the fifth fret. This brings you fa of diatonic $c$ sol fa $u t$ [ $\left.c^{\prime}\right]$, and it is notated with a $y$, and will be a unison with the $c$.

Finger and strike the third course on the sixth fret. This brings you mi of chromatic c sol fa ut [c\#'], and it is notated with a double $b$. It is a unison with the $h .^{151}$
(Sig. [L2v]) There you [have] three courses with all the pitches of the two genera.

THE FOURTH COURSE
The unstopped, unfingered fourth course produces mi of bfa h mi in the space [b], and it is notated with a numeral that means "three" in numbers, like this: $\boldsymbol{\$}$.

Finger and strike or pluck the fourth course on the first fret.

This produces $f a$ of diatonic $c$ sol fa $u t$ [ $\left.c^{\prime}\right]$, and it is notated with a small $c$.

Finger and strike the fourth course on the second fret. This brings you $m i$ of chromatic $c$ sol fa $u t$ [c\#'], and it is notated with a plain $h$.

Finger and strike the fourth course on the third fret. This brings you diatonic $d$ la sol re [ $\mathrm{d}^{\prime}$ ] and it is notated with an $n$.

Finger and strike the fourth course on the fourth fret. That brings you $f a$ of chromatic e la mi on the line [ $\mathrm{eb}^{\prime}$ ], and it is notated with an $s$.

Finger and strike the fourth course on the fifth fret. This brings you $m i$ of diatonic ela $m i$ [ $\left.\mathrm{e}^{\prime}\right]$ on the line, and it is notated with a $z$. It is a unison with the 4 .

Finger and strike the fourth course on the sixth fret. This brings you $f a$ of diatonic $f f a u t$ in the space [ $\left.\mathrm{f}^{\prime}\right]$ and it is notated with a double $c$. It is a unison with the $d$.

Finger and strike the fourth course on the seventh fret. This brings you mi of chromatic $f f a u t$ in the space [f\#'] and it is notated with a double $h$. It is a unison with the $i$.

Thus you now have all the pitches of the two genera on four courses.

## THE FIFTH COURSE

(Sig. L3) The unstopped, unfingered fifth course produces e la mi [e'], and it is notated with a numeral that represents "four" in numbers, like this: 4.

Finger and strike the fifth course on the first fret. This brings you $a$ of diatonic ffa $u t$ in the space [ f '], and it is notated with a $d$.

Finger and strike the fifth course on the second fret. This brings you $m i$ of chromatic $f f a u t$ in the space [ $\mathrm{f} \mathrm{\#}$ '], and it is notated with an $i$.

Finger and strike the fifth course on the third fret. This brings you diatonic $g$ sol re $u t$ on the line [g'], and it is notated with an $o$.

Finger and strike the fifth course on the fourth fret. This brings you $f a$ of chromatic a la mire [ab'], and it is notated with a $t$.

Finger and strike the fifth course on the fifth fret. This will be $m i$ of diatonic a la mire [a'], and it is notated with an 'et' sign [ z ]. It is a unison with the 5 .

Finger and strike the fifth course on the sixth fret. This brings
you $f a$ of $b f a h m i$ on the line [ $b b^{\prime}$ '], and it is notated with a double $d$. It is a unison with the $e$.

Finger and strike the fifth course on the seventh fret. This brings you $m i$ of $b f a h m i$ on the line [b'], and it is notated with a double $i$. It is a unison with the $k$.

There you have five courses.

THE SIXTH COURSE
The unstopped, unfingered sixth course produces $m i$ of diatonic a la mire [a'], and it is notated with a numeral that represents "five" in numbers, like this: $\boldsymbol{5}$.
(Sig. [L3v]) Finger and strike the sixth course on the first fret. This brings you $f a$ of $b f a h m i$ on the line [ $\mathrm{bb}^{\prime}$ ], and it is notated with an $e$.

Finger and strike the sixth course on the second fret. This brings you $m i$ of $b f a h m i$ on the line [b'], and it is notated with a $k$.

Finger and strike the sixth course on the third fret. This brings you $f a$ of diatonic $c$ sol $f a\left[c^{\prime \prime}\right]$, and it is notated with a $p$.

Finger and strike the sixth course on the fourth fret. This brings you $m i$ of chromatic $c s o[l] f a$ [c\#"], and it is notated with a $v$.

Finger and strike the sixth course on the fifth fret. This brings you diatonic $d$ la sol $[\mathrm{d} "]$, and it is notated with a 9 [a sign for "con" or "us"].

Finger and strike the sixth course on the sixth fret. This brings you fa of chromatic ela $\left[\mathrm{e}^{\mathrm{b}} \mathrm{l}\right.$, and it is notated with a double $e$.

Finger and strike the sixth course on the seventh fret. This brings you $m i$ of diatonic $e l a[\mathrm{e} "]$, and it is notated with a double $k$.

There you have all the pitches of both genera on all courses and frets. You can also go much higher beyond the frets, but for that there are no more fixed rules, especially for the quintsait. Therefore, I will not write further about this either. A: Very well. That is written out clearly enough for me. Nevertheless, I am still in need of a little more explanation, and it concerns this: You are speaking to me about several letters and numerals that I cannot distinguish from each other. Give me instruction about this, and then I will be content with it. $S e$ : You are right. There are indeed several letters that are made just like the numerals, or the numerals like
(sig. [L4]) the letters. And, as I think about it, I find three instances: first, when one writes the number "one" with a stroke; next, the 2 ; and third, the 3 . In this regard, you should know that the lutenists have two forms of [the number] "one." They make the first with a long stroke and two little dots above it, as here: $\boldsymbol{i}$. And they call it the "large [number] one." They make the second [number] "one" as a plain little stroke, unembellished, without any addition at all, and they name this the "small [number] one," like this: 1 . Furthermore, they make a small, short little stroke with one little dot above it. They call that a vowel, which is the ninth letter of the alphabet and the third of the five vowels. It is made like this: $\mathbf{i}$.

In the second instance, the 2 and the $r$ are also two different things. [Lutenists] consider as a numeral the one made like this: 2 . And [they consider] as a consonant the one formed like this: $\mathbf{\varepsilon} .{ }^{152}$

Thirdly, they consider that which signifies "three" in numbers to be a numeral, made like this: $\mathbf{3}$. And that which is made a second way, like this: $\boldsymbol{\Sigma}$, they make as a consonant. ${ }^{153}$

And these are all the distinctions that may confuse you. Otherwise, I know of nothing more that you need for the tablature of the lute, except for reviewing which notes are long or short, as I have told you with reference to the clavichord. But since I have already said enough about it, it is not necessary to repeat it here. Therefore I will leave it at that, and [I will] show you [all] these things [in the form of] such beautiful illustrations, which I have written out for you, [illustrations] that I know have not yet been seen, heard of, or thought possible of being devised, like those that follow below. The first [is] the Scala musicalis [musical scale] with all the numbers and letters for the neck of the lute.
(Sig. [L4v]) [Woodcut of the notational symbols of lute tablature related to the notes of the musical scale, in four columns with the following typeset captions from left to right, above and below: "Diatonic notes," "Diatonic unisons," "Notes of the chromatic genus," and "Unisons of the chromatic genus."]

(Sig. M) I presume from this illustration you will understand well enough what each letter is and what it signifies on the neck of the lute, so that you will always put into the tablature the one letter for the line or for the space on which the written note stands. However, so that you will understand it even better, I will show you one additional illustration in which you also see all the letters that you [saw] before on the neck of the lute now written out [and] standing next to the hand or scale of Guido. In the following illustration you will find all of these [letters and notes], each one put on its own course and on its own fret, and on its proper line and space as well. I think you will make sense out of it if you look at the illustration very diligently; and [to clarify] whatever about it is difficult for you, simply reread the early section about the lute and put the illustration in front of you. I expect it
will get to be easy for you. So, turn [the page], and look over the illustration. I think it is correct.
(Sig. [Mv]) [Woodcut of the six courses and the tablature symbols as they relate to the scale]


Letter names of notes
The numbers
are not pressed down.
the 6 th course
the 5th course the th course the third course the and course the first course
the first fret
the second fret
the third fret
the fourth fret
the fifth fret
the sixth fret
the seventh fret
(Sig. M2) I think you now have enough rules, for I can write no more about this tablature for eleven strings. But in the other book I will present three other kinds of tablatures for you, and [I will] teach you to intabulate for thirteen strings. ${ }^{154}$ Consequently, I can think of nothing more that you would need for now, except that once again I will show you the little song written above in notes, "O Holy, immaculate, tender virginity of Mary," and set it for you in the tablature of the lute, [just] as I have likewise set it for you earlier in the tablature of the clavichord. And as you see that I have intabulated the little song following the notes exactly, so should you do likewise to the other [songs] that you want to learn. In the other book I will also give you a better way (modum), [that of] breaking up some of the pitches (ettliche stymmen zů diminuiren), ${ }^{155}$ so that [the music] does not proceed so very simply (so gar schlecht). For now [though], let this suffice for you regarding this tablature for the lute. Then, if you wish, you may inquire further at a later time, [for] I am also going to tell you what I know about the recorder. Just look over the little song that follows, and if you desire and [if] it pleases you, then learn to play it. ${ }^{156} A$ : Well, you are ending all these things abruptly for me, and you are hurrying too much. Nevertheless, I ought not to vex you. Therefore, put the little song into the tablature for me. With that I will be satisfied, and then [I can] begin another. ${ }^{157} \mathrm{Se}$ : Turn [the page] and you will find it.
(Sig. [M2v]) [Woodcut of the song found on sigs. H4v-I2 as intabulated for lute(s) ] ${ }^{158}$


(Sig. [M3v]) [The chapter] on the recorder begins herel ${ }^{59-}$
$A$ : Now tell me about the recorder. How should I set about to learn it? $S e$ : In learning to play the recorder you must first know how many [finger] holes this [kind of] pipe will have; secondly, how the fingers are to be placed on the pipe; thirdly, how the pipe is to be labeled; fourthly, which hole or how many of the holes must be opened or closed so that they produce exactly the pitch you intend, from the two genera - diatonic and chromatic. Then, when you know the fingering, you must also learn to apply the tongue - which is also used on the recorder - together with the fingers [so that] they move with each other exactly [at the same time] up and down [the scale] or with leaps, as the case may be.
$A$ : Then, tell me how many holes the recorder has, [holes] that must be opened and closed. Se: Recorders generally have two holes at the lower end situated directly opposite each other. They are made directly opposite each other because some players (ettliche pfeiffer) are accustomed to having the right hand above
and the left hand below on the pipe, and these [players] close the hole on the right side with wax. Others are accustomed to having the left hand above and the right hand below, and they therefore close the hole on the left side with wax. Thus, the two holes are made equivalent, so that they can be serviceable to any [player], whether he wishes to use the left one or the right one. Therefore, (sig. [M4]) the two holes are counted as only one, because whichever of the two is opened, the other opposite to it must be closed. One of these side holes, whichever one wishes, is for the little finger. Thus, these two holes are made on the sides of the pipe and not in the middle like the others, so that they can be reached with the little finger. ${ }^{160}$ After that, proceeding upward, on the second hole of the recorder belongs the annularis, which is called "the golden ring finger" by the erudite, or [simply] "the gold finger. ${ }^{" 161}$ Then, going up from the bottom, on the third hole belongs the middle among the five fingers of the hand. After that, on the fourth hole of the pipe belongs the index finger of the lower hand. Now, going further up, on the fifth hole of the pipe belongs the ring finger of the upper hand. On the sixth hole of the pipe, going up, belongs the middle finger of the upper hand. On the seventh hole belongs the index finger of the second hand, which is the upper one. Then there is one more hole in the back of the pipe. The thumb of the upper hand belongs on this one, as you [can] see drawn in this illustration of the two hand [positions].
(Sig. [M4v]) [Woodcut of the hands on a recorder in two configurations]

The left hand below
The right hand below

The right hand above
The left hand above

## Birlyndk fandt unden

## Biretedty handt oben

 Bie reththanit onden
## Brélinck lanant oben

(Sig. N) A: This too I understand well. Now, how shall I label the recorder? $S e$ : In the other book I have made a special [fingering] chart and illustration for each [size of] recorder: a separate one for the discant [i.e., the size called "alto" or "treble" today, but one pitched a fifth rather than a fourth above the tenor], a separate one for the tenor, and also [one] for the bass (basscontra), according to the way [in which] the three sizes of recorders are tuned together [as a consort]. And these charts or ${ }^{162}$ illustrations - on account of the letters that I have applied to the holes - are somewhat more like or similar to our music [i.e., to staff notation] than [are] the present numerical symbols. ${ }^{163}$ Nevertheless, [in this instance] I am making the charts with only the numerals, so that they can be used for all recorders, be they tenor, bass, or discant. And since you have eight holes on the recorder, we will therefore take just the first eight numerals for this purpose, and [standing] for the lowest two holes (which, after all, are counted as only one, and on which the little finger belongs) we will put a numeral that represents "one" in numbers, like this: 1. [Standing] for the
second hole, on which the ring finger belongs, we will put a numeral that represents "two" in numbers, like this: 2 . For the third hole, on which the middle finger of the lower hand belongs, we will put a numeral that represents "three" in numbers, like this: 3. For the fourth hole, on which the index finger of the lower hand belongs, we will put a numeral that represents "four" in numbers, like this: 4 . For the fifth hole, on which the ring finger of the second hand ([the one] that is on top) belongs, we will put a numeral that represents "five" in numbers, like this: $\boldsymbol{5}$. For the sixth hole, on which the middle finger of the second hand belongs, we will put a numeral that represents "six" in numbers, like this: 6 . For the seventh hole, on which the index finger of the upper hand belongs, we will put a numeral that represents "seven" in numbers, like this: 7. (Sig. [Nv]) For the eighth hole, situated on the back of the recorder, on which the thumb of the upper hand belongs, we will put a numeral that represents "eight" in numbers, like this: [8].
[Woodcut of a recorder with all eight holes numbered]


A: Well now, you have told me enough about the placement of the fingers on the recorder, [and] similarly, how I am to label the pipe. Now tell me how and in what way I am to get and obtain the pitches on it. Se: You must know [that] when one tunes two or three recorders together, then the small recorder of the discant [part] must always be pitched a fifth above the middle-sized recorder of the tenor [part]; and in the same way, the recorder of the bass [part] must likewise be pitched a fifth below the tenor. Therefore, I will show you the lines and spaces, for they are the same in the three fifths. For example, if I begin on the $f a$ below gamma ut [F] for the bass, [then] on the tenor [it will be] $c$ fa ut above that in the space [c], [and] then on the discant it will be $g$ sol $r e u t$ in the space [g], a fifth above the tenor. ${ }^{164}$ In like manner, the first line for the bass will be gamma ut [G], the tenor
[will be] a fifth above that at $d$ sol $r e$ [d], and then the discant, a fifth above the tenor, will be a la mi re on the line [a]. And thus, going on further up, one [size of] recorder is fingered and blown almost exactly like the others, as long as in other respects they have their correct measurements - of the length, of the diameter, (sig. N2) and also of the holes - but not otherwise. Only the bass cannot be made to speak as well in the shrill or high register as the tenor or the discant. Therefore, I will give you an illustration later on in which I will present you with three different sets of letter names for the notes (claves), ${ }^{165}$ setting them distinctly on the lines and spaces: those of the discant in the first column [i.e., on the right (see below pp. 179-80 - sigs. O3 and O3v)], those of the tenor in the middle, and the letter-names of the bass last [i.e., on the left]. And since these three recorders are thus almost all the same in all pitches, by fifths [i.e., they have the same fingerings for pitches that are a fifth apart], I will put the numerals of the holes [only] once in these lines and spaces. For, if these are correct for the tenor, then they will be correct as well for the discant and the bass in all pitches.

And so I will begin by telling you about the opening and closing of the holes on the recorder. With this you can be sure to obtain the pitches of the two genera discussed above. In the first place I [will] tell you [that], when you close all the holes of the recorder and blow into the recorder, then the lowest pitch of all will sound. On the tenor you must consider this pitch as diatonic cfaut in the space [c], and on the discant as if it were diatonic $g$ sol re ut in the space [g]. But in the bass, you must consider it as the $f a$ below the gamma ut [F], [a] chromatic [note]. ${ }^{166}$ In the fingering chart as well as in the tablature, you must notate this lowest or deepest pitch with a round circle and a little dot inside it, or else, with a $O$ [i.e., a zero] and a little dot inside it, like this: ©. A: Why must the lowest pitch of the recorder have a special symbol in the tablature and not a symbol for a numeral like the other holes? Se: Because, just like the 0 in the science of numbers, it represents nothing at all. (Sig. [N2v]) Rather, it only takes the place of a number. Therefore, in this case as well, it is not to indicate any of the numbered holes, but only an open pitch of the recorder, as if it had no holes at all. $A$ : Then what is the purpose of the little dot in the middle of the circle? Se: That differentiates it from the pitch that the recorder produces when all the holes are open. This pitch is likewise not
notated with a numeral, but with an unembellished circle, or a 0 , as [you see] here written on the [picture of a] recorder: $\mathbf{O}$.
[Woodcut of a recorder with the two notational symbols marked upon it]


A: Now tell me more about the pitches [as you] go up on the recorder. Se: Open now only the first hole, on which the little finger [belongs]. [This pitch] is notated with a numeral that represents "one" in numbers, like this: 1 . This brings you one whole tone above the first pitch of the recorder, when all [the] holes are closed; and this must be $d$ sol re [d] on the tenor, a la mi $r e$ [a] on the discant, and gamma ut [G] on the bass. It is notated in the following fingering chart, and also in the tablature as well, with a plain stroke, like the one above.

Now going higher up: close the first hole once again and open the second. That gives you a semitone that is $f a$ of chromatic $e$ la mi [eb] on the tenor, but it is fa of chromatic a re [Ab] on the bass, and $f a$ of $b f a h m i$ in the space [bb] on the discant. And this pitch is notated in the following illustration [i.e., in the fingering chart] as well as in the tablature with a numeral that (sig. N3) represents "two" in numbers. But in addition, [in the tablature] a little stroke must go through it, just as if it were crossed out [or slashed] in half, like this: ネ. ${ }^{167}$ A: Why must that be? Se: So that one can distinguish between the two numerals [in the tablature] that represent "two" in numbers, or [so that one can tell] one from the other. And since this [pitch] is no more than a minor semitone, in order that such a [numeral] should represent such a semitone, I will make a stroke through [the numeral] so that this half part will indicate the minor semitone. And every time I make a little stroke through a numeral, that will always indicate nothing more than a semitone to me. But wherever there is an intact numeral without a stroke or line through it, that will always indicate a whole tone to me. Now, going further up [the scale]:
open the first two holes, to which the little finger and the ring finger are assigned. That gives you $m i$ of the $e$ la $m i$ [e] on the tenor, but on the bass it will be $m i$ of diatonic a re [A], and on the discant $m i$ of $b f a h m i$ in the space[b]. And that is notated in the tablature with a numeral that represents "two" in numbers, like this: 2 . But in the fingering chart I put two numerals, like this: 21. After that, open the third hole and the first [one]. That gives you $f a$ of $f f a u t$ on the line [f] on the tenor, and $f a$ of diatonic $c$ sol fa $u t$ [ $\left.\mathrm{c}^{\prime}\right]$ on the discant, but $f a$ of chromatic $h m i[\mathrm{Bb}]$ on the bass. That is notated in the fingering chart with two numerals, the first of which represents "three" in numbers, and the second of which represents "one" in numbers, as here: 31 . But in the tablature it is notated with only one numeral that represents "three" in numbers, with a little stroke drawn through it, like this: $\boldsymbol{\phi}$.

A: Wait! Wait! I cannot understand that. Should I open the third hole and the first [hole] and keep the second [one] closed? Earlier you said I should open the second hole and keep the first one closed, and you notated it like this: (sig. [N3v]) \&. But now you are talking about two [holes], and you skip over the middle one. And since I see that you open sometimes three, sometimes four, sometimes five, sometimes six holes, [and] sometimes all [of them], how will you let me know how to notate these pitches with one single numeral so that I [can] find the correct pitch? Set me straight about this so I need question you no further about it.
$S e$ : I will give you a very concise rule for this so that you need ask nothing further, and it is this: every time you put a numeral into the tablature that stands for the pitch and [for] one of the holes, whichever it may be (notice immediately if the pitch is a whole tone), then all the other holes underneath this one - that is, the holes with numerals that are lesser or smaller - must always be opened. For example, if the sixth hole is to be open, and if it is a whole tone, then the fifth, the fourth, the third, the second, and the first must all be open. Or, if the fifth hole is a whole tone, and if "five" is put into the tablature, then the fourth, the third, the second, and the first must be opened. But, if it is a semitone, then the next hole below the one that the numeral designates must always remain closed, while, moreover, the others below it [are] all open. So if the sixth hole is a semitone, then this sixth hole must
remain open and the fifth [one] closed, and then the fourth, the third, the second, and the first all remain open. If the fifth is a semitone, then the fourth must always remain closed, and the fifth, the third, ${ }^{168}$ the second, and the first [must] be opened. You must therefore merely watch for the semitones and keep the rules. Moreover, it is not necessary to put into the tablature all the holes that should be opened for any pitch [along with] all their numerals. (Sig. [N4]) For then, many pitches will have as many as five, six, or seven numerals, as I show in the following fingering chart. But that would not be intelligible [in a tablature]. Therefore, $I$ am putting into the fingering chart the numerals alone, so that you can easily obtain, learn, and finger the pitches and also impress them upon your memory. And if you have understood them, then you will always put [just] the first numeral of the same pitch into the tablature. If it is a whole tone, then you need open no more than this hole of the numeral as well as all others underneath it, and [you] put into the tablature only the first numeral of this pitch, completely bare and without a slash. But if it is a semitone, then keep the nearest hole below it closed, and make a little line through the first numeral in the tablature.

A: Well, I think I will remember it. Now let us go on farther up [the scale]. Show me the fingerings in more detail. Se: Now open the third, the second, and the first holes, and blow [into the recorder]. On the tenor that gives you $m i$ of $f f a u t$ on the line [ $\mathrm{f} \#$ '], and on the discant, $m i$ of chromatic $c$ sol fa $u t$ [ $\mathrm{c} \mathrm{\#}$ ']. But on the bass it gives you $m i$ of diatonic $h m i[\mathrm{~B}]$. And that is notated in the fingering chart with three numerals, like this: 32 ; in the tablature [it will be indicated[ with only a $3 .{ }^{169}$

Now take the lower hand completely away. Four holes are thus open: the fourth, the third, the second, and the first. Recorder players call this pitch "at the half-way [point]" (zum halben synn). It is $g$ sol re ut in the space on the tenor $[\mathrm{g}], d$ la sol re on the discant [d'], and $c$ sol fa ut on the bass [c]. In like manner, it is notated in the fingering chart with four numerals, like this: 4321, but in the tablature with only one numeral, like this: 4 . And in this way, by following the tenor, you can find the other pitches of the discant, (sig. [N4v]) and also of the bass, all of them together almost exactly the same on one pipe as on another, except that the bass cannot sound as good in the high register as the other pipes [do]. I will therefore give further instructions for the tenor alone. You
$\dot{\text { will }}$ be guided by it for the other pipes as you put in front of you the fingering chart in which I clearly show you all the pitches. Therefore, for the sake of brevity, I will leave out the other pitches [i.e., of the discant and bass recorders], because the pipes will ordinarily be the same by fifths.

Now to proceed: There comes next a semitone [that] is $f a$ of chromatic a la mi re [ab]. For this you must open four holes: the fifth, the third, the second, and the first. And it is notated in the fingering chart with these four numerals, like this: $\$ \$ 21$. But in the tablature [it is notated] with a numeral that means "five," with a little like drawn through it, like this: ${ }^{K}$.

After that comes the $m i$ of diatonic a la mi re [a]. You must open five holes: the fifth, the fourth, the third, the second, and the first. And it is notated in the fingering chart with five numerals: $\mathbf{5 4 5 2 1}$. But in the tablature it is notated with a single bare numeral that represents "five," as here: $\boldsymbol{s}$.

After that there follows the $f a$ of $b f a h m i[b b]$. You must open five holes: the sixth, the fourth, the third, the second, and the first. And it is notated in the fingering chart with the five numerals: 64321 . But in the tablature [it is notated] with only one numeral that represents "six," with a little line through it, as here: §. ${ }^{170}$

After that comes the mi of $b$ fa $h m i$ [b]. For this you must open six holes: the sixth, the fifth, the fourth, the third, the second, and the first. And the pitch is notated in the fingering chart with the six numerals: 65432 i . But in the (sig. O) tablature [it is notated) with only one numeral that represents "six" in numbers, like this: $6 .{ }^{171}$

After that comes the $f a$ of diatonic $c$ sol fa $u t$ [c']. For this you must open six holes: the seventh, the fifth, the fourth, the third, the second, and the first. And that is notated in the fingering chart with six numerals, thus: $7 \$ 4521$. But in the tablature [it is notated] with only one numeral that represents "seven" in numbers, with a little line drawn through it, like this: $\AA$.

After that comes mi of chromatic $c$ sol fa ut [c\#']. For this you must open seven holes: the seventh, the sixth, the fifth, the fourth, the third, the second, and the first. And that is notated in the fingering chart with the seven numerals: 7654521 ; but in the tablature [it is notated] with only the numeral that represents "seven" in numbers, like this: 7 .

After that there follows diatonic $d$ la sol re [d'], and for this you
must open all holes, lower and upper, and this is notated in the fingering chart the same as in the tablature. Thus, you should draw only a round circle without any addition, which will indicate to you an open pitch that the recorder produces without putting down any fingers. Therefore, one draws nothing at all except a bare circle: 0 .

A: Now do I have all the pitches of the recorders for playing in the higher and lower [registers], so that the indicated holes are all set in order in the fingering chart and [in the] tablature? Se: No, you have another perfect fifth to go up higher gradatim through all the semitones of the two genera discussed above. But [as for] how you are to put them into the fingering chart and then into the tablature, that requires special attention. A: I beg you, tell me about this as well. Se: Very well, I will present this to you - likewise with few words- and set down a rule about it, which is this: whenever you wish to go up higher from here, then you must always have the eighth hole - (sig. [Ov]) on which the thumb of the higher hand belongs - half open and half closed for all the pitches. These pitches are also called the pitches of the high register of the recorder, and they are discovered, obtained, fingered, and blown exactly the same as their lower octaves, except that the thumb hole on the back or underside of the recorder is always half open. Thus, going straight on, you have all the pitches as before an octave higher, up to the $f a$ of $b f a h m i\left[b b^{\prime}\right]$ on the line in the tenor, and up to the fa above e $l a$ [ f "] in the discant; but you cannot reach this in the bass. And so that you understand this completely, we will go further up from the pitch that was $d$ sol re [d'] and [for which] all holes were open. For the first [note of the upper register], make the thumb hole half open, and, in addition, [open] the second hole once again. That gives you fa of chromatic $e$ la $m i\left[\mathrm{eb}^{\prime}\right]$ on the line, and you will find it notated in the fingering chart with two numerals next to one another. The first is 8 [and] the second "two," like this: 82 . But in the tablature it has another notation, and it is this: In place of the numeral that represents "eight" in numbers, you should always draw a little halfcircle, with a little dot [and put it] above the [written] numeral. The little half-circle with a little dot in it indicates the half part of the eighth hole that must always be open. And the small dot within it means that the first holes, going up from the full circle (that is, from the bottom up), must be opened exactly as before. And thus,
you notate this $f a$ of $e l a m i\left[\mathrm{e}^{\mathrm{b}}\right.$ '] in the tablature with a numeral that represents "two" with a little line through it, to which is added above the numeral a half circle with a small dot, like this : $\boldsymbol{i}^{172}$
(Sig. O2) Now make the thumb hole on the back half open and half closed, and then [open] the second and the first holes. That gives you $m i$ of diatonic ela $m i$ [ $\left.\mathrm{e}^{\prime}\right]$, and it is written like this in the fingering chart: 821, but in the tablature with a numeral that represents "two" in numbers and above it a half circle with a dot, like this: ${ }^{\text {E }}{ }^{173}$

Now make the thumb hole on the back of the pipe half open and half closed, and then [open] the third hole and the first. That gives you $f a$ of diatonic $f f a u t$ [ $\left.\mathrm{f}^{\prime}\right]$ in the space, and it is notated in the fingering chart like this: $\mathbf{8 3 1}$. But in the tablature it is notated with a numeral that makes "three" in numbers, with a little line drawn through it, and above the number a half circle with a dot: $\mathcal{Z} .{ }^{174}$

Now, once again, make the thumb hole on the back of the pipe half open and half closed. In addition, [open] the first three holes: the third, the second, and the first. That gives you mi of chromatic ffa ut [f\#'], and it is thus notated in the fingering chart with four numerals, ${ }^{175}$ but in the tablature with only a 3 and above it a half circle and a dot, like this: 8.176

Now make the back thumb hole half open and closed, and [open] the fourth, the third, the second, and the first hole[s] as well. These give you the diatonic $g$ sol re $u t$ [g'] on the line, which recorder players call the half-way point of the high register, and it is notated in the fingering chart with five numerals, like this: 84521 . But in the tablature it is notated with only one numeral, which represents "four" in numbers, and above this numeral [there is] a half-circle with a dot, like this: 4.

Now, once again, make the back thumb hole half open and closed. Then [open] the fifth, the third, the second, [and] the first as well. That gives you fa of chromatic a la mi re [ab'], and it is notated in the fingering chart with five (sig. [O2v]) numerals, like this: 85321 . But in the tablature this pitch is notated with one numeral that represents "five" in numbers, with a half circle and a dot [drawn] above it [and a line through the numeral], like this: $\$$

Now, once again, make the back thumb hole half open and half closed. Then [open] the fifth, the fourth, the third, the second,
and the first hole[s] as well. That gives you $m i$ of diatonic a la mi re [a'], and it is notated in the fingering chart with six numerals, like this: ${ }^{\mathbf{8 5 4 3 2}}$. But in the tablature [it is notated] with one single numeral that means "five" in numbers. And above, it must have a half circle with a dot, like [this]: 3.

Finally, make this back thumb hole half-way open and half-way closed [once more]. At the same time you must also open five more holes: the sixth, the fourth, the third, the second, and the first. For you this will be the highest pitch of the tenor [recorder], and it will be $f a$ of $b f a h m i[b b ']$ on the line. It is notated in the fingering chart with six numerals, like this: 864321 . But in the tablature it is notated with a single numeral that means "six" in numbers, with a little line drawn through it, and above it a half circle with a dot, like this:

So, you now have all the pitches as well as how you shall obtain them on the recorder. I will put before you two illustrations of this. In the first [there are] the numerals of all the pitches on the three sizes of pipes. Then, in the second [there are] the symbols for the pitches in the tablature. With these we will end the little book.
(Sig. [O3]) [Woodcut of recorder fingering chart] ${ }^{177}$

(Sig. [O3v]) [Woodcut of simplified recorder fingering chart, the "tablature"]

(Sig. [O4]) If you now wish to set something for recorders into the tablature, then put the symbols of the latter illustration in front of you and pay attention to the measurement de valore notarum, or, of the value of the notes, just as I have taught you previously for the clavichord. It will be easy for you to learn. Let that satisfy you for now.
$A$ : There is still one very little ${ }^{178}$ [matter] about which I must inquire. Give me information about this and then [you can] happily conclude your little book. Earlier you presented to me a little song that had four voices. Since I now would like to set it for recorders into the tablature [that you] have shown [me], what kind of recorder must I have then for the alto part?

Se: You need to know that one generally makes four recorders in one chest (in einen futeral), ${ }^{179}$ or six together, which is called a "coppel": two discants, two tenors, [and] two basses. You must observe [in] the alto part whether the range from top to bottom allows you to have another tenor or not. If you deem it
[appropriate] for a second tenor recorder, then you need no other. ${ }^{180}$ But if it goes too high, then you must take a second discant for the alto part.

And thus, so that you and I may also become those about whom the prophet David spoke [in the quotation] at the beginning [of this book]: "Blessed is the people that knows how to make the joyful sound"; and so that many a good companion who wishes to become one of the blessed [people may] improve himself in the future, I will herewith commend you to God, and contentedly conclude my little book. And I desire no more than [this]: that wherever I have erred, no one [will] blame me for my great, impudent lack of diligence and [my] oversight; and, if I have offended someone in it, may he forgive me, God willing. With that, may God keep you in good health. A: You too, my dear Bastian. May God be your reward. Se: Amen.

