

Fifteenth-century Instruments in Tinctoris's *De Inventione et Usu Musicae*

THE contents of this incunabulum were brought to the notice of musicologists by Dr Karl Weinmann of Regensburg, who, after a short preliminary notice in the *Riemann Festschrift* (1909, p. 267), reproduced the whole of the text in his monograph *Johannes Tinctoris (1445-1511) und sein unbekannter Traktat 'De inventione et usu musicae'* (Regensburg, 1917). The treatise is undated, but Weinmann deduces that Tinctoris wrote it in about 1487 and that it was published about the same year, probably in Naples. The Episcopal Library at Regensburg possesses what is apparently the only known copy.

The title suggests that the treatise is partly historical. In fact, however, the entire work is written from the historical aspect, and consequently Tinctoris's choice of modern material is confined to subjects which were then supposed to possess evolutionary links with antiquity. Having first dealt with the human voice, he proceeds to discuss the two instruments which figure most prominently in classical literature and legend, the tibia and the lyra. From here he passes on to their modern (fifteenth-century) descendants, which were presumed to be the shawm and the lute, subjoining to these only the trombone, because it formed part of the shawm band, and the different fiddles, guitars and the cittern because they are also 'derived from the lyre'. The other fifteenth-century instruments lay outside the range of his subject.

Since no other fifteenth-century technical descriptions of these instruments have (so far as the present writer knows) come to light, those which Tinctoris provides, sketchy and sometimes ambiguous though they are, have great value. It has therefore been thought worth while to separate them from the bulk of their extremely uninteresting historical context and to accompany them with a paraphrase in English. The rows of dots show where the descriptions emerge from, or revert to, matters concerning antiquity.

DE INVENTIONE ET USU MUSICAE

Ex Tercio Libro

Quid sit tibia: a quibus inventa: ex quo et qualiter formata.

Tibia instrumentum est duo principalia tenens foramina: unum valde angustum: per quod (canna de se sonora quam vulgus anciam vocat infixa) sonus flatu hominis creatus immittitur: et alterum amplum per quod emittitur.

. . . Si tamen Varroni credendum sit: antique tibie quaterna habebant foramina. Alii dicunt (ut Acro refert) non plus quam tria. Discursu vero temporis co ventum est: ut tibia que vulgo celimela nuncupatur: nunc septem foraminum sit. Quibus quidem arte recta proportionatis ad omnem cantum proferendum: ipsa tibia effecta est perfectissima. Illa tamen quam dulcinam a dulcedine sua nominant: licet totidem habeat foramina: hoc est septem ante ac unum aliud retro instar fistule: quia cantus omnis editioni non suppetit: imperfecta censetur.

Sciendumque est: ubi foramen septimum cujusvis tibie in unum latus declinaverit: octavumque in alterum fuerit appositum: vocem eandem ab utroque emitti. Hoc enim invenerunt propter minimi digitorum brevitate: qui (si foramen septimum alia sex ordine recto sequeretur) illud (quando opus esset) claudere non posset. Unde: quom tibicinum alii manum dexteram superponant: et alii supponant: ad usum illorum foramen sinistrum: ad istorum vero dextrum est institutum.

Et quoniam tibia simplex vocem imitatur humanam: unicam scilicet partem cantuum edere potens: ut quemadmodum ex vocibus humanis gravitate et acumine disparibus: cantores diversarum partium cantus pronunciant; ita et tibicines inaequalibus

THE INVENTION AND PRACTICE OF MUSIC

From Book III

The tibia, its inventors and its evolution.

The tibia has two main orifices, one extremely narrow, through which the breath is impacted against the sound-producing reed or *anciam*; the other wide, whence the sound is emitted.

. . . If Varro is correct, in ancient times the tibia had four holes, though others, as Acro records, say that it had three. However nowadays the tibia called *celimela*¹ has seven holes. Provided that its holes are correctly placed, any composition can be played on it and it is completely perfect.

On the other hand that tibia called the *dulcina*,² on account of the softness of its sound, has seven holes in front and one behind, like a fistula [recorder]. Since not every kind of piece can be played on it, it is considered to be imperfect.

Note that when the seventh hole of any tibia is set to one side and has an eighth hole set opposite to it, each of these holes gives the same note. This arrangement was adopted to accommodate the little finger, which is normally not long enough to close the seventh hole if it is aligned with the other six. In consequence some players prefer to place the right hand uppermost and use the hole on the left side, while others prefer the opposite.

A single tibia is like a voice in being able to deliver only one part in a composition, and hence, just as singers perform different parts according to their voices, so do tibia players use instruments varying in size. Some are high, suitable for treble parts, and others are low, for the middle and lowest parts. Therefore tibias, like the parts

tibiis personarent: tibiurum alias acutas: alias graves: illas supremis partibus: istas mediocribus et imis adaptabiles excogitarunt. Unde: tibiurum (ut cantus partium) alii nomen est suprema: alii tenor: quem vulgo bombardam vocant: et alii contratenor. Imos tamen contratenores semper: ac sepe reliquos: tibiicibus adjuncti tubicines: ea tuba quam superius tromponem ab Italis: et sacque-boute a Gallicis appellari diximus: melodiosissime clangunt. Quorum omnium omnia instrumenta simul aggregata: communiter dicuntur alta.

Et quamvis solus tibiicen nonnullorum cantuum duas partes: duplici tibia personare possit: quia tamen hec paucis aut pene nullis sufficit caniculis: imperfecta plurimum est. . . .

Ex Libro Quarto

Quid sit lyra populariter leutum dicta: quid etiam quelibet instrumentalis species ex ea producta: utpote (juxta linguam vulgarem) viola: rebecum: ghittera: cetula: et tambura: a quibus omnia hec inventa: quot chordas et qualiter ordinatas primum habuerint: et nunc habeant.

Lyra est instrumentum ex ligno concavo in modum testudinis formatum: circa medium habens orificium: et collum oblongum: super quod chorde ab infima parte ejus juxta orificium emergentes: usque ad summam equaliter tenduntur.

Et hanc sonitor manu sinistra non modo sustinet: verum etiam digitorum ipsius attactu: chordas deprimit ac elevat. Altera vero: aut digitis ejus aut plectro: chordas ipsas percutit. Unde Ovidius in undecimo metamorphoseos de Phoebus lyricine loquens ait:

*Instructamque lyram gemmis ac dentibus indis
Sustinet a leva: tenuit manus altera plectrum.*

*His lyre, fashioned of gems and Indian ivory, he supports with his left hand;
the other held the plectrum.*

themselves, are described as *suprema*, *tenor* (commonly called *bombarde*) and *contratenor*.

However for the lowest contratenor parts, and often for any contratenor part, to the shawm players one adds brass players who play, very harmoniously, upon the kind of tuba which is called, as was said above,³ *trompone* in Italy and *sacque-boute* in France. When all these instruments are employed together, it is called 'the loud music'.⁴

Though a single player is sometimes able to perform two parts of a composition on *double tibiae*, these suffice for but few, or rather scarcely any, songs, and they are considered the least perfect.

From Book IV

The lyra commonly called the lute, and the various instruments derived from it, including the *viola*, *rebec*, *ghittera*, *cetula* and *tambura*; their inventors and past and present methods of stringing and tuning.

The lyra is made of wood in the shape of a tortoise-shell, with a hole roughly in the centre, and a long neck over which the strings are stretched from just below the hole up to the top of the neck.

The player holds the instrument with his left hand, at the same time making the notes by pressure of his fingers, while the strings are struck by the right hand either with the fingers or with a plectrum. Whence Ovid in his *Metamorphoses*, when he speaks of Apollo the lyre-player, says:

Est que plectrum: quo chorde pulse ad sonum emoventur. Cujusmodi apud nos sunt penna et arculus: apud antiquos pecten. . . .

Et in hujusmodi lyra: septem chordas inter se tonis ac semitoniiis differentes tetendisse fertur: vel ad imitationem septem orbium planetarum: vel ad honorem septem pleiadum. . . . Sed quom ipse septem chorde: per tonos ac semitonia discrepantes: non omni composito cantui suppetebant: quinque et aliquando sex principalium ordinatio ea subtilitate a posteris (ut reor) Germanis inventa est: ut duabus mediis ad ditonum: ceteris vero ad diatessaron temperatis: lyra sit perfectissima.

Quin ut fortiores habeat sonum: cumbet istarum chordarum una conjungitur: que ei (excepta duntaxat prima) ad diapason contemperatur. His autem chordis ex arietum intestinis communiter factis: sunt qui germanica inventione: gravissime quandam aliam ei per diapason consonantem adjiciunt eam: Qua concentus non modo itidem fortior: verum etiam longe suavior efficitur.

Et quia (sicut prediximus) lyra hec in formam testudinis condita sit: testudo a poetis sepe numero vocatur. . . . Verum: nunc vulgus eam ubique leutum appellat. Et forsitan ad differentiam quorundam aliorum instrumentorum: que ex ipsa lyra: progressu temporis apud diversas regiones inventa sunt. Siquidem hispanorum invento: ex lyra processit instrumentum quod ipsi ac Itali violam Gallici vero dimidum leutum vocant. Que quidem viola in hoc a leuto differt: quod leutum multo majus ac testudineum est: ista vero plana: ac (ut plurimum) ex utroque latere incurvata. Alia tamen viola est: a grecis (ut ajunt) comperta: non solum forma (sicut illa) differens a leuto: sed etiam chordarum dispositione ac pulsatione. Enimvero: sive

The plectrum elicits the notes from the strings; the ancients used the pecten where we use a quill or a bow.

The lyre is described as having seven strings tuned by tones and semitones, analogously to the seven planets, or in honour of the seven Pleiades. But since seven strings differing by tones and semitones do not suffice for every composition, an arrangement of five, sometimes six, principal strings was later adopted, first, I think, by the Germans. According to this, the two middle strings are tuned to a major third and the rest in fourths, thereby making the lyra [lute] completely perfect.

And further, to provide a stronger sound, an additional string may be conjoined to any string and tuned to the octave, though not when conjoined to the first string. The strings are generally of ram's gut, but there is also the German invention in which another [set of]⁵ brass string[s] is added, tuned very deeply through an octave. By this the sound is rendered not only stronger, but also very much sweeter.

The lyra is often called 'testudo' by the poets, as we have already remarked, by reason of its shape . . . but it is now known everywhere as the lute, perhaps to distinguish it from the various other instruments to which it has given rise in different places from time to time; that, for example, invented by the Spanish, which both they and the Italians call the *viola*, but the French the *demi-luth*. This viola differs from the lute in that the lute is much larger and tortoise-shaped, while the viola is flat, and in most cases curved inwards on each side. But there is *another viola*, said to have been invented by the Greeks, which differs from the lute not only in shape (as did the last-mentioned) but also in stringing and method of playing.

tres ei sint chorde simplices ut in pluribus: per geminam diapentem: sive quinque (ut in aliquibus) sic et per unisonos temperate: inequaliter.

Hoc est tumide sunt extente: ut arculus (quom chorda ejus pilis equinis confecta: sit recta) unam tangens: juxta libitum sonitoris: alias relinquat inconcussas.

Extractum est et lyra: aliud instrumentum valde minus: ab aliis Galliorum qui id excogitarunt: rebecum: et ab aliis marionetta nuncupatum. Quod instar leuti testudineum: chordas que vel arculo tanguntur (ut predicta viola) tenet adaptatas.

Quinetiam instrumentum illud a Catalanis inventum: quod ab aliis ghittera: ab aliis ghiterna vocatur: ex lyra prodisse manifestissimum est: hec enim ut leutum (licet eo longe minor sit) et formam testudineam: et chordarum dispositionem atque contactum suscipit.

Ab ipsa etiam lyra instrumentum aliud processit: ab Italis qui hoc compererunt cetula nominatum. Super quam quatuor enee vel calibee chorde: ad tonum et tonum: diatesaron: ac rursus tonum: communiter disposite tenduntur: pennaque tanguntur. Et hec ipsa cetula plana existens: quasdem elevationes ligneas quas populariter tastas appellant: in collo proportionaliter habet ordinatas. Contra quas chorde digitis compressa: sonum: vel sublimiorem vel humiliorem efficiunt.

Illud autem exile ac parvum instrumentum: quod Turcharum exiliori ac minori ingenio: ex lyra itidem tractum: eorum lingua tambura nuncupatur: formam quasi coclearis magni continens: tres chordas habet ad diapason: diapentem: ac diatesaron temperatas: digitis aut penna ad sonandum impellendas.

Quorum omnium instrumentorum: alia (secundum chordarum quantitatem et numerum) ad quatuor can-

For it has either (1) three simple strings tuned to a pair of fifths, which is the most usual, or (2) five strings tuned unevenly in fifths and unisons.

These are stretched in a protuberant manner so that the bow (which is strung with horse-hair) can touch any one string the player wills, leaving the others untouched.

Also derived from the lyre is a very small instrument called the *rebec* by the French, who invented it, and by others the *marionetta*. This, like the last-mentioned viola, is also strung for bowing, but, like the lute, it is tortoise-shaped.

Furthermore there is the instrument invented by the Catalans, which some call the *ghittera* and others the *ghiterne*. It is obviously derived from the lyre since it is tortoise-shaped (though much smaller) and has the same stringing and method of playing.

Yet another derivative of the lyra is the instrument called *cetula*⁶ by the Italians, who invented it. It has four brass or steel strings usually tuned: a tone, a tone, a fourth, and back again a tone,⁷ and it is played with a quill. Since the *cetula* is flat, it is fitted with certain wooden elevations on the neck, arranged proportionately, and known as frets. The strings are pressed against these by the fingers to make a higher or a lower note.

The miserable and puny instrument which the Turks with their even more miserable and puny ingenuity, have evolved from the lyra and call the *tambura*, has the shape of a large spoon and has three strings tuned to octave, fifth and fourth; it is played either with the fingers or with a quill.

Of all the foregoing instruments, some by reason of the size and number of their strings are perfectly suitable for all four parts of a composition, or even for a greater number if the player has sufficient skill. Others are

tuam partes: immo ad plures (ubi sonitoris ingenium et ars corresponderent) perfectissima promendas: alia ad tres: alia ad duas: alia saltem ad unam: accommodabilissima sunt. . . .

Usus autem ipsius lyrae quam leutum vulgo nuncupari prediximus: festis: choreis: et convivii: privatisque recreationibus apud nos inservit. In qua plurimi precipue germani sunt eruditi. Siquidem: nonnulli associati: supremam partem cujusvis compositi cantus: cum admirandis modulorum superinventionibus: adeo eleganter eo personant: ut profecto nihil prestantius. Inter quos: Petrus bonus Hercules Ferrarie ducis incliti lyricen (mea quidem sententia) ceteris est preferendus.

Alii (quod multo difficilius est) soli: cantus non modo duarum partium: verum etiam trium et quatuor: artificiosissime promunt. Ut Orbus ille germanus: ac Henricus Carolo Burgundionum duci fortissimo nuper serviens. Quem etiam germanum: hec sonandi peritia: celebrem pre omnibus efficit.

Et quamvis aliqui ad hoc instrumentum id est leutum: quaslibet cantilenas (ut supra tetigimus) jocundissime concinant: ad violam tamen sine arculo in Italia et hispania frequentius. Viola vero cum arculo: non solum ad hanc usum: sed etiam ad historiarum recitationem in plerisque partibus orbis assumitur.

Neque preterire in animum venit: quot exiguo tempore lapsos: duos fratres Orbos natione Flamingos: viros quidem non minus litteris eruditos quam in cantibus expertos: quorum uni Carolus: alteri Johannes nomina sunt. Brugis audiverim: illum supremam partem et hunc tenorem plurimum cantilenarum: tam perite: tamque venuste hujusmodi viola consonantes: ut in illa nunquam melodia: me profecto magis oblectaverim.

suitable for three, two, or only one [of the parts].

The lyre which is called the lute, we use at feasts, dances, and public and private entertainments, and in this many Germans are exceedingly accomplished and renowned. Thus some teams will take the treble part of any piece you care to give them and improvise marvellously upon it with such taste that the performance cannot be rivalled. Among such, Pietro Bono [Avogari], lutenist to Ercole, Duke of Ferrara, is in my opinion pre-eminent.

Furthermore, others will do what is much more difficult; namely to play a composition alone, and most skilfully, in not only two parts, but even in three or four. For example, Orbus, the German, or Henri who was recently in the service of Charles, Duke of Burgundy; the German was supereminent in playing in this way.

While some play every sort of composition most delightfully on the lute, in Italy and Spain the viola without a bow is more often used. On the other hand over the greater part of the world the viola with a bow is used not only in this way, but also in the recitation of epics.

Nor must I pass over a recent event, the performance of two Flemings, the brothers Charles and Jean Orbus, who are no less learned in letters than skilled in music. At Bruges, I heard Charles take the treble and Jean the tenor in many songs, playing this kind of viola so expertly and with such charm that the viola has never pleased me so well.

And I am similarly pleased by the rebec, my predilection for which I will not conceal, provided that it is played by a skilful artist, since its strains are very much like those of the viola. Accordingly, the viola and the rebec are my two instruments; I repeat, my chosen instruments, those

Et quia rebecum (si sonitor artifex et expertus fuerit) modulos illis quam simillimos emittat: quibuslibet affectus spiritus mei (occulta quadam familiaritate) ad leticiam quam simillime excitantur. Hec itaque duo instrumenta mea sunt: mea inquam: hoc est quibus inter cetera: animus meus ad affectum pietatis assurgit: quaeque ad contemplationem gaudiorum supernorum: ardentissime cor meum inflammant. Quo mallem ea potius ad res sacras: et secreta animi solamina semper reservari: quam ad res prophanas et publica festa interdum applicari.

Ghiterre autem usus: propter tenuem ejus sonum: rarissimus est. Ad eamque multo sepius Catalanas mulieres carmina quaedam amatoria audivi concinere: quam viros quicquam ea personare. Cetula tantum uti quosdam rusticos ad eam nonnullas leves cantilenas concinentes choreas quoque ducentes in Italia comperi.

Et quom Turcharum immanissima gens: qui pontificatus Sixti papae quarti anno decimo: Hydrontum Apulie Metropolitim dolo expugnaverant: post quatuor mensium obsidionem: Alfonso Calabrorum duci strenuissimo: se internitionis metu dedidissent: quosdam eorum illo instrumento: quod (ut supra diximus) ab eis tambura vocatur: nonnullos cantus (ut privatim (quod possent) se in terra consolarentur aliena) Neapoli edere persensi: adeo nimirum incomptos ac insulsos: quod solum id ad eorum ostendendam barbariem: omnino sufficebat.

that induce piety and stir my heart most ardently to the contemplation of heavenly joys. For these reasons I would rather reserve them solely for sacred music and the secret consolations of the soul, than have them sometimes used for profane occasions and public festivities.

The ghitterra is used most rarely, because of the thinness of its sound. When I heard it in Catalonia, it was being used much more often by women, to accompany love-songs, than by men. The cetula is only used in Italy by rustics to accompany light songs and to lead dance music.

Finally, when the Turks, that most barbarous race, took Otranto, the capital of Apulia, by a trick (in the tenth year of the pontificate of Pope Pius IV [1480], after a four months' siege), and subsequently surrendered themselves to that warrior Alfonso King of Naples in fear of their lives, I happened to be in Naples and myself heard various tunes played on the tambura, which I have already described; tunes which they played in private, being allowed to do so to console their captivity. The extravagance and rusticity of these pieces were such as only to emphasize the barbarity of those who played them.

NOTES

¹ *Celimela*: chalemelle (Engl. shalmele), shawm.

² *Dulcina*: douçaine, an instrument very frequently mentioned in literature from the fourteenth century until the middle of the sixteenth, but whose form has not yet been identified.

³ 'superius . . . diximus'—not in *De Inventione*.

⁴ 'alta': *les haulx menestrels* of fifteenth-century courts.

⁵ 'quandam aliam . . . eneam' = 'another string, of brass'. Alternatively as suggested in the paraphrase, the word *ordinatio* (from the preceding paragraph) being understood.

⁶ *Cetula*: citole, cittern.

⁷ Suggesting a tuning *e' d' a b* (cf. R. T. Dart, *Galpin Society Journal*, I, p. 48).

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Illustrations of the instruments referred to in Frank Hubbard's article on *Two Early English Harpsichords* will be found in Philip James's *Early Keyboard Instruments* (London, 1930), facing pages 116 and 120. A photograph of the Haward harpsichord also appears in the issue of *Apollo* for March, 1949.

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