



The Journal of the Viola da Gamba Society

Text has been scanned with OCR and is therefore searchable. The format on screen does not conform with the printed *Chelys*. The original page numbers have been inserted within square brackets: e.g. [23]. Footnotes here run in sequence through the whole article rather than page by page. The pages labelled 'The Viola da Gamba Society Provisional Index of Viol Music' in some early volumes are omitted here since they are up-dated as necessary as *The Viola da Gamba Society Thematic Index of Music for Viols*, ed. Gordon Dodd and Andrew Ashbee, 1982-, available on CD-ROM. All items have been bookmarked.

Contents of Volume 4 (1972)

Margaret Crum

The Consort Music from Kirtling, bought for the Oxford Music School from Anthony Wood, 1667 [PDF]

Chelys, Vol. 4, 1972, pp. 3-10

David Pinto

William Lawes' Consort Suites for the Viols, and the autograph Sources [PDF]

Chelys, Vol. 4, 1972, pp. 11-16

Collette Harris

The Viol Lyra-Way [PDF]

Chelys, Vol. 4, 1972, pp. 17-21

Carl Hugo Ågren

The Sound of Viols [PDF]

Chelys, vol. 4, 1972, pp. 22-34

Desmond Dupré

Book Review

Diana Poulton, *John Dowland* [PDF]

Chelys, vol. 4, 1972, pp. 35-36

Anthony Woodford

Music Review

William Byrd. Collected works. Vol. 17. *Consort Music*, ed. Kenneth Elliott [PDF]

Chelys, vol. 4, 1972, pp. 37-38

Rosamond E. M. Harding

Music Review

Matthew Locke: *Chamber Music: I, II*, Musica Britannica XXXI, XXXII, ed. Michael Tilmouth [PDF]

Chelys, vol. 4, 1972, pp. 38-41

Michael Hobbs

Music Review

Jacobean Consort Music for recorders or viols, selected from Musica Britannica IX: Books 3 and 4; **Invitation to Madrigals 5**, ed. Thurston Dart [PDF]

Chelys, vol. 4, 1972, pp. 41-42

[3]

The Consort Music from Kirtling, bought for the Oxford Music School from Anthony Wood, 1667.

MARGARET CRUM

In *A general History of Music* (1776) Sir John Hawkins transcribed so much as remained after the damp of a hundred Oxford winters of a paper pasted to the wainscot of the Music School. The paper dealt, amongst other things, with disbursements in the year 1667, which included £22 for 'sets of choice books of instrumentall music, 11 whereof are the composition of Mr. John Jenkins, for 2. 3. 4. 5 and 6 parts for the organ and harpsecon, and 6 sets more composed by Mr. Lawes, Coperario, Mr. Brewer, and Orlando Gibbons, all bought of Mr. Wood'. This was the beginning of the new library of music assembled by Edward Lowe. He numbered the sets 1-17, and sixteen of them remain together, almost complete. The missing parts are three: the entire Orlando Gibbons set (three-part fancies, according to the catalogue of 1682); the organ part of Jenkins's 'Fancies and Ayres Division for two Trebles and Bass', which was missing, though apparently not noticed as missing, when Lowe checked and labelled the acquisition; and the organ part of Coperario's 'Fancies for two Bases to the Organ', which was purchased by the British Museum from Julian Marshall in 1881 and is now Add. MS 31416.¹ The 1682 cataloguer said Coperario's 'Fancies for 2 parts a Treble and Bass to the Organ' were wanting, but they were standing with the rest in the case north of the organ in the Music School when Hake made his catalogue about 1855, and they have been with the rest in the Bodleian since 1885. The particular interest of the collection lies in the fact that it contains apparently authoritative copies of 190 fantazias, fantazia-suites, and airs by John Jenkins.

Though in style and general make-up there are differences among the sixteen sets, none lacks distinctive elements common to others. Thus, five sets are covered in old deeds, which, relating to the Norths and their property in the eastern counties as late as 1634, suggest as the place of origin the household of Dudley, third Baron North, at Kirtling, Cambridgeshire. The titles were written on the parchment covers in a large, flourished style, by hands varying in command of

[4] penmanship, but obviously aiming at some degree of uniformity. Those of the parts which have paper covers (some blue or dark, some white) are inscribed in the same style. So it may be supposed that all these books came from Kirtling; perhaps, as Miss Willetts has suggested, after the death of the old Lord North in 1666.²

¹ Add. MS 31416 was catalogued by Hughes-Hughes as 'apparently autograph', and on that account a facsimile of Coperario's name from the end of one of the fantazias accompanies the article on him in *Die Musik in Geschichte und Gegenwart*, though with a dubious note.

² *Music & Letters*, XLVIII (1967), 125-6.

It looks as if most of them were also copied at Kirtling, but there are three kinds of hand present (if you exclude, for the moment, two extra leaves pinned into one of the Jenkins lyra viol sets). One excellent hand is the most frequent. It is found in nearly all the keyboard parts and in instrumental parts of ten sets, as well as in titles and headings to music in other hands. The writer had a preference for brown ink and a fairly thick pen, and he achieved remarkable clarity and regularity; his skill with a pen is also evident in the titles on some of the covers, and in the flourished attributions at the ends of the pieces. If his (in some ways exceptional) copy of the organ part of the Jenkins four-part fantazias and pavaues (Bodleian Library, MS Mus. Sch. C. 99) is compared with the examples which Miss Willetts has suggested as the calligraphic hand of John Jenkins himself,³ it is difficult to escape the conclusion that the Kirtling writer was familiar with Jenkins's own manuscripts.

On one occasion he is found adding to the organ score of another hand, which had probably been at work rather earlier, and which may have had no direct connection with the Norths. His copy is expert, but far less handsome, and his paper is always blemished with scattered dark patches of what the Bodleian's repairing expert, Mrs Segal, identifies as a mould; she observes that the acidity of the ink has killed the mould near lines and notes. Her likely, but distressing, suggestion is that the scribe may have been coughing over his work. This writer was responsible for music by Coperario, who died in 1627, and by his pupil William Lawes, who died in 1645: the organ parts of William Lawes's sets for one and for two violins with bass viol and organ, and for numbers 1-10 of Coperario's set for the same instruments are in his hand.⁴ The calligraphic hand added four suites to the Coperario set and wrote instrumental parts for all three sets. He also inscribed the titles on paper covers for the organ parts. In addition to these two hands the third kind mentioned above constitutes a group of perhaps four who imitated with varying degrees of success the forms and flourishes of the calligraphic hand. It would be rash to dismiss the possibility that there are here unpractised hands learning over a period of months or even of years to produce more successful copies, and that not so many as four people were

[5] involved. What is certain is that the calligraphic copyist was not responsible for a number of the instrumental parts. To the two most skilful of his pupils (a term which in one sense or another must truly describe these imitators) seem to have been entrusted the organ part of the Coperario set for two bass viols and the harpsichord part of some of the Jenkins lyra viol music.

Behind the calligraphic scribe and his pupils was someone who left but minute significant traces of his interest. The calligrapher evidently used to check all his copies against the originals, and to show that he had done so he marked the end of each movement in the instrumental parts 'ex[aminéd]'. (Only one organ part was so marked.)⁵ In MS Mus. Sch. C. 101 (the

³ *Music & Letters*, XLII (1961), p. 36.

⁴ MSS Mus. Sch. C. 90, 89 and 101.

⁵ MS Mus. Sch. C. 99.

Coperario set to which he added four suites) all but two movements of the instrumental parts were 'ex[amined]'. Against these two, someone wrote in a very small, well-formed handwriting 'qu[ery] e[xamined]' and 'ex[amined] q[query]'. The same overseer was more actively involved in two sets copied by the least skilful pupils. In MSS Mus. Sch. C. 83 and C. 87 he wrote frequent corrections over notes or rests which were at fault, for example 'cr[otchet]', 'min[im]', 'min[im] & crotchet] rest', 'long rest', 'sol', 'sol, delasolre', 'Gfaut', and so on. Sometimes the correct notes and rests were actually written on small pieces of paper by the copyists and pasted over the faulty passages, and no doubt the intention was that this should always have been done. It is only the mould-blemished organ parts that nowhere show intrinsic connection with this corrector.

It is very tempting to attribute the supervision to the old Lord North. The marks are reminiscent of corrections by him in a scribe's copy of his *Forest of Varieties*, printed 1645 (now Bodleian Library, MS North e. 41, fols. 1-55). The calligrapher was probably in any case someone employed by Lord North at Kirtling, perhaps the 'profes't musick master' mentioned by his grandson Roger.⁶ And were the imitating hands the grandchildren? In another Bodleian North manuscript, C. 20, are receipts written and signed at different dates by some of these children for a small legacy of their maternal grandmother, Lady Mountague : Charles, afterwards 5th Baron, 1653, aged 18, fol. 98; Francis, the future Lord Keeper, 29 April 1656, aged 18, fol. 116; Mary, 5 March 1658, aged nearly 18, fol. 130; and Anne and Elizabeth, 20 November 1662, fols. 147-8 (Anne was baptized 8 December 1642 so was then aged 20. Probably they were twins). There are also receipts from Dudley from the age of 16 at his writing master's in London, from John, later Master of Trinity College, Cambridge, at various dates, and from Roger (but he was

[6] probably too young to have taken part in the music copying) aged 18 in 1671, fol. 184. The daughters' hands are better than anything (except the distinctive calligrapher) in the music copies, and Dudley's is nearer to what (presumably) his master was teaching him, but the others are not unlike.

What evidence there is of the date of the copies is compatible with these tentative suggestions. One set only is actually dated: Jenkins's fantazias for treble and two basses to the organ, MSS Mus. Sch. E. 406-9. These were copied by the calligrapher and dated on their covers 1654. Perhaps we can get a little further by considering the books' physical make-up, and the first thing is to look generally at the paper used. It was apparently bought ready ruled, either with staves of six lines, for keyboard and tablature parts, or of five lines, for string parts. For the parts for keyboard and lyra (written in tablature), there were various sizes of folio sheets, and for one set (the dated one, MSS Mus. Sch. E. 406-9) large oblong quarto. For the string parts there were upright quarto, oblong quarto, or upright folio sheets. Sometimes the copyist had to rule extra staves at top or bottom of the leaves. A more elaborate adaptation is found in the string parts of two sets of fantazia-suites by Lawes (MS Mus. Sch. C. 89) and Jenkins (MS Mus. Sch. C. 81) which

⁶ *Roger North on Music*, ed. John Wilson (London, 1959), p. 10.

were copied on paper designed to be cut into oblong quarto sheets, that is, ruled with two sets of six staves separated by a wide space: for the fantazias, copied always on the versos, an extra stave was ruled in the space between the two groups, and the two airs were made to fit each into six staves on the facing page.

The copyists quired their paper in various ways. The mould-marked organ parts were always quired in twos. The calligrapher generally quired folio paper in twos, but MS Mus. Sch. C. 83 is an exception, where in each part he added a large quire to an existing large quire; he quired quarto leaves in fours. The pupils' quiring is irregular and shows a preference for large quires.

It is not possible to base argument leading to exact dates for these sets on watermarks, but they may probably be divided into groups copied at various times according to the kind of paper on which they were written. I think 21 distinct watermarks are present. One (a pelican resembling Heawood 199)⁷ is found in the paper used for all three mould-spotted scores; and the remaining 20 marks are in that used by the calligrapher and his pupils.

The calligrapher's dated set, MS Mus. Sch. E. 406-9, is linked to two others by the upright quarto paper used for the string parts. The watermark is a fool's cap resembling Heawood 2005. A quire

[7] of four leaves of the same paper was added to complete each part of MS Mus. Sch. C. 99, the early Jenkins four-part fantazias;⁸ and a few leaves complete the parts of MS Mus. Sch. C. 98, his *Airs* for two trebles and bass to the organ, tentatively ascribed by A. Ashbee to the years 1630-50. The six-lined stave paper for the keyboard parts of these three sets is of three distinct kinds, none of which was used elsewhere in the collection, and similarly the five-lined stave paper, of which five kinds are present besides the significant fool's cap, is peculiar to these sets. Presumably they may all be ascribed to the same period, but no one can say to how long a period. The three sets are entirely the work of the calligraphic scribe, and some peculiarities may suggest that they represent a period of experiment. MS Mus. Sch. C. 99 is unique in being copied on paper with bar-lines ready drawn, and the music hand and decoration bear a closer resemblance to the calligraphic scores of Jenkins himself than is found elsewhere. It is also the only set in which the pieces in the organ part, as well as the string parts, were marked 'ex[amined]'. The organ part of MS Mus. Sch. C. 98 is a deluxe copy, generously spaced on large thick folio leaves. E. 406 is the only oblong quarto organ part.

Three other sets are connected to one another by the use for the instrumental parts of paper ruled for oblong quarto, which was in two sets adapted for upright folio in the way I have described. The watermark is a coat of arms resembling Heawood 660-1. Twice (in MSS Mus. Sch. C. 89

⁷ Edward Heawood, *Watermarks*, [*Monumenta chartae papyrae historiae illustrantia*, vol. 1] (Hilversum, Paper Publications Society, 1950).

⁸ 1 For the dates of Jenkins's compositions, see Andrew Ashbee's introduction *John Jenkins: Consort Music of Four Parts*, *Musica Britannica* XXVI (London, 1969), pp. xv-xvi, and his review of R. Warner's edition of Jenkins's three-part fancy and ayre divisions for two trebles and a bass to the organ, *Music & Letters*, LI (1970), 89-90.

and 101) it was associated with the mould-damaged organ parts. The third set is MS Mus. Sch. C. 81, Jenkins's Fantazia suites for the same instruments—violin, bass viol and organ. The third mould-damaged score (MS Mus. Sch. C. 90) had parts copied on a kind of paper not found elsewhere. These four sets were prepared for the Kirtling household by the calligrapher alone. He wrote string parts for them all, adding organ parts of four complete fantazia-suites in the Coperario set, and he wrote complete parts, organ as well as strings, for the Jenkins set.

The organ parts for these sets were copied on a kind of paper of which altogether at least six quires of 24 sheets must have been bought. The watermark is a rudimentary or broken fool's cap not in Heawood. The other sets in which this was used are MSS Mus. Sch. C. 100, Thomas Brewer's four-part fantazias; MS Mus. Sch. C. 82, Jenkins's fantazia suites for two trebles and bass

[8] to the organ; MS Mus. Sch. C. 83, his six-part fantazias; and MS Mus. Sch. C. 84, his Lyra viol suites in C major and A minor. In these sets the pupils' hands appear; the string parts of the Brewer are in one hand, the string parts of the six-part fantazias in another, and the lyra set seems to be the work of a third and more skilful, hand. The calligraphic scribe wrote titles on each piece in the six-parts, and on the covers of the Brewer. During the copying of these sets the broken fool's cap six-lined stave paper ran out, and the harpsichord part of the lyra viol set was copied on a new kind (watermark pot, initialled RRO) also found in the other lyra sets MSS Mus. Sch. C. 88 and 85. For string parts, after the Brewer, for which one quire of 24 sheets of a unique paper was used, they had six quires of a small upright folio paper watermarked with a cardinal's hat, not in Heawood. This lasted after the broken fool's cap score paper had run out, and is found in all the remaining sets except two: these are MS Mus. Sch. C. 84, the lyra set in C major and A minor, for which they used one quire of 24 leaves of a unique damaged pot, initialled [R]RO (no doubt related to the six-lined stave paper mentioned above); and the unaccompanied three-part fantazias by Jenkins in MS Mus. Sch. C. 87, copied on three kinds of paper not used elsewhere. (The first is watermarked pot RRO, but is ruled with five-lined staves; its evident association with the six-lined stave paper with the same watermark points only to the time of its purchase by the supplier of ruled paper). In most of these sets one or other of the pupils' hands is found.

We can, then, perhaps assume an approximate order of the production of all this music at Kirtling: first the experimental sets, MSS Mus. Sch. C. 99 and C. 98, associated with MS Mus. Sch. E. 406-9, 1654, all containing music by Jenkins. Then the completion of three sets using existing organ parts of Coperario and Lawes violin fantazias, MSS C. 89, 90, and 101.⁹ With these sets goes the set containing Jenkins's fantazia suites for the same instruments, MS Mus. Sch. C. 81. Then (using up the broken fool's cap score paper) MSS Mus. Sch. C. 100, 82, 83 and 84, that is, Brewer's set, and

⁹ Heawood's exemplar of the pelican watermark found in the organ parts was associated with the date 1644, and as the music copied in them is early, it is possible that they belong to approximately the same time.

Jenkins's two trebles and bass to the organ, his six parts, and one of his lyra sets. Then (using up the five-line stave cardinal's hat paper) C. 88, C. 85, C. 86 and C. 91 (the last includes altogether one whole quire of 24 leaves of a new paper, blank at the ends of the parts): that is, the other two lyra sets, another set for two trebles and bass, and Coperario's set for two bass viols. The only set not placed in this sequence is MS Mus. Sch. C. 87, Jenkins's unaccompanied fantasias

[9] for two trebles and bass, begun by one very inexperienced hand and completed by the one who copied the Brewer parts. This set was corrected by the supervisor who (I have suggested) may be Lord North himself.

It will be remembered that two leaves of one of the lyra viol sets (MS Mus. Sch. C. 88, fols. 11, 26) were left out of the discussion earlier. They contain treble and bass parts for a Fantazia suite for treble, bass and harpsichord (without lyra viol) in D minor. This is the only illogically placed composition in the whole series. The two leaves are in another kind of hand altogether from the calligrapher and his pupils—swift, rather scratchy, certainly showing no attempt to conform to any external standard of musical writing beyond the need for legibility for a performer. Comparison with the 'non-calligraphic' hand of Jenkins himself in the Christ Church music MSS 777 and 779 (identified by Christopher Field)¹⁰ suggests that they are the same. There is no improbability in the suggestion. Jenkins's exact whereabouts in 1654 and the succeeding years are uncertain, but it is known that he sometimes stayed at Kirtling before coming there to live in 1660 until 1667. He might well have given this otherwise unknown piece to the Norths during such a visit; or equally well it may date from after 1660. Carolyn Coxon placed these manuscripts in a class 'believed to have been compiled by pupils or friends while in close contact with [Jenkins]'.¹¹ She claimed that 'numerous pages ... are marked "Ex. I. I" or "Examined"'. Only one page is in fact marked 'J. J. exam', MS Mus. Sch. C. 87, fol. 2, but 'Exam' against the first twelve pieces in that volume (it contains the least expert of all the copies, the unaccompanied fantasias for two trebles and bass) may be taken to mean the same. In all cases, 'ex', etc., was written by the copyist. The possibility that any set has a history independent of the others cannot be disregarded, and the connection of the whole collection with Jenkins himself may well be rather different from that supposed by Mrs Coxon. Some at least of the sets were copied for the household at Kirtling before Jenkins was the resident musician, and it is claiming too much for them to say that they were all 'certainly prepared under the composer's direct influence', though they must not be considered very remote from him either. The calligrapher appears to have worked sometimes from the composer's own scores, and twice Jenkins himself helped in the production of playing parts for the Kirtling household. Beyond that we are left in uncertainty.

There has survived a household account book, from Kirtling, used from May 1638 to February 1640 and again from July 1662 to March 1663/4. In

¹⁰ *Music & Letters*, LI (1970), 472.

¹¹ Royal Musical Association, *Research Chronicle* IX (1971), p. 74.

the earlier period, the household had 19 quires in eight lots of 'white' or 'writing' paper at 5d a quire, and 15 quires

[10] in 3 lots of 'cap' at 4d, also an unspecified 12 quires together for three shillings. Though it is clear from this that a good deal of writing was done, we can hardly expect to know what was written. But in the later period substantially more paper was bought, and on 29 May 1663 there was 'A pinte of the best pricking Inke' at the cost of one shilling. That must have been for pricking music: the *Oxford English Dictionary* knows no other meaning but copying music. The household had, over the twenty-month period, about 20 quires of the more expensive paper at 5d or (now) 6d, and 39, quires of 'cap' at 4d or 41 d; in addition on 25 March 1663/4 is the entry 'For a Reame [480 leaves] of Paper, which Mr. James paid Mr. Hallam for. 4s. 6d.'. It is a matter for regret that accounts for 1654 and the following years have not survived. Probably we shall not discover whether these expenses in 1663-4, when Jenkins was at Kirtling, mark the continuation of the copying of the sets which reached the Music School in 1667, or whether those sets were being replaced by newly copied music.

[11]

William Lawes' Consort Suites for the Viols, and the autograph sources¹

DAVID PINTO

In his discussion of Lawes's autographs Lefkowitz states² that all nine autograph volumes (including the main sources for the consort sets: Bodleian MS Mus. Sch. B. 2 and B. 3, Mus. Sch. D. 229, and British Museum Add. MS 17798) are bound 'exactly alike, in brown calf, with the Royal Arms of Charles I stamped in gold on the covers, and on either side of the design an initial, first W. and then L.'. This he then amends in a footnote saying that B. 3 is stamped with the initials H. L..

Further, 'From³ the inscription by Richard Gibbon in Add. 31432 [the autograph songbook] it is probable that William Lawes himself arranged the contexts and had them bound, perhaps during the Court's establishment at Oxford. . . . Indeed, all of the volumes appear to be part of one large set which was meticulously arranged and guarded'—unfortunately no basis for chronology is offered.

Lefkowitz' examination of the watermarks leads him to believe that the volumes were 'for the most part' all of a set, bound at Oxford *c.* 1642: 'Except for the fly-leaves, each volume contains paper which is uniform in size, weight, and watermark. This paper has printed staves of five lines, which are also uniform. All of the volumes, except Mus. Sch. B. 2 and B. 3, have the same watermarks, a peacock in a circle', which indicates Venetian provenance *c.* 1628. The paper of the two Bodleian scores is earlier, viz. *c.* 1579; their fly-leaves resemble in watermark the paper of Coperario's *Rules How to Compose*, written *c.* 1610, on paper that is listed as in production until 1624. The fly-leaves of the organ-book have a date of 1640-80 or so.

This discussion, judged merely by the account of the paper in the fly-leaves, makes the manuscripts seem more diverse than an advocate for a theory of composer's collection could wish: the only MS that must have a date post 1640 is the organ-book D. 229 (the continuo parts are written inwards from both ends, which implies copying after binding). Evidently it is the bindings alone that establish the likelihood of a composer's collection.

[12] However it is *not* so that 'all nine autograph volumes are bound exactly alike'. Add. 17798 (a sole bass part-book from an original set of six) has a contemporary vellum binding stamped in gold BASSVS above a conventional floral design; its watermark does not seem to be an encircled peacock. It and D. 229 are far smaller than B. 2 and B. 3. These volumes do not have printed staves, and the number of staves a page varies—and of course the organ-book has staves of six lines.

¹ I should like to thank Commander Gordon Dodd for much detailed advice and comment.

² M. Lefkowitz, *William Lawes* (London, 1960), p. 31.

³ Op. cit., p. 30.

Most significant of all is the diversity in binding: even the volumes bound in calf differ from one another. The stamp of the Arms upon D. 229 is not the same as that upon B. 2 and B. 3: these last have the coat enclosed by the Garter, surmounted by the crown and upheld by the lion and unicorn supporters on a bracket of the royal motto; the design upon D. 229 lacks supporters and bracket, having instead a large entwining frame. Furthermore the stamped initials upon D. 229 differ.

This in conjunction with Lefkowitz' own findings on the watermarks is clear evidence that B. 2 and B. 3 are not of the same vintage as D. 229, which (if any volume) would be part of the Oxford 'large set ... meticulously arranged'.⁴ B. 2 and B. 3 indicate by their fly-leaves that they were bound by the mid-1620s, whatever may or may not have been written into them at the time, in the period during which Lawes must have left the patronage of the Seymours who had bred him up (the old Earl of Hertford died in 1621) and perhaps, if the similarity in paper between these volumes' fly-leaves and Coperario's *Rules* may be trusted, before the presumed death of Coperario in 1626. This would give substance to the unsubstantiated report quoted by Lefkowitz⁵ that William was in the service of Charles before his accession, and possibly hint at a chronology of composition (if layers may be found in B. 2 and B. 3).

The state of the musical text in B. 2 and B. 3 suggests that they antedate D. 229 and Add. 17798: deletions, emendations and excisions abound that, for the most part, are not found in the organ-book and bass part-book. Their status as working drafts is further suggested by Henry Lawes' initials upon B. 3, which William would hardly have stamped upon a collection of his own work.

This question of comparative authority does gain importance when it is realized that the autograph part-book (and also the organ-book, to a lesser degree the reason for which will become clear) differs from

[13] the scores in details, smaller and larger, which show that the process of amendment continued after the scores had been disused; and that these details are common to the autograph part-books and the surviving non-autograph sets that, if incomplete at times and corrupt, can help in reconstructing the missing autograph parts.

As an example of these differences a critical commentary to the In Nomine in B flat⁶ from the six-part Consort Suite no. 3 is given (Table 1).

Noteworthy are:

Item 3 which alters the harmonic structure,

Item 16 which shows insertion of divisions and attention paid to articulation,

⁴ Add. 31432 has the Royal Arms identical with those of n. 229 but lacks the initials W L, which in conjunction with Gibbons's inscription, that William himself copied and gave away the volume, makes the notion of 'one large set' even more distant.

⁵ Op. cit., p. 12 n. 1.

⁶ Printed as item 5 of *Musica Britannica* XXI, William Lawes, *Select Consort Music*, second edition, ed. M. Lefkowitz (London, Stainer and Bell, 1971), pp. 45-52. Clefs in the examples in Table 1 correspond with those of the published score.

Items 17 and 18 which show simplification: allowing that a player's penchant would be to embellish, not simplify—these in all probability are composer's alterations with a musical point, i.e. to increase the length of the magnificent downward scale that sinks three and a half octaves to bass D.

Sources

AUTOGRAPH

OB Mus. Sch. B2 (score) D. 229 (organ); Lbm Add 17798 (bass pt)

NON AUTOGRAPH

Lbm Add. 29410-5; Och 479-83; the 'John Browne' part-books

Layout
of
Parts

Part	Line in B2	Add 2941-	JB	17798	Och
Tr 1	1	0	Cantus		480
Tr 2	2	1	Quintus		479
A	3	2	Altus		481
T	4	3	Tenor		482
B 1	5	5	Sextus		483B
B 2	6	4	—	*	483A

SIGNIFICANT

VARIANTS

Item	Bar	Part	Text	B2	D229	17798	JB	29410-5	479-83	Notes
1	28	A	A B	A	—	—	B	B	B	
2	30-1	Tr 1	C D	C	C	—	D	D	D	
3	31-34	B1	E F	E	F	—	F	F	F	
4	33-34	Tr 1	C D	C	C	—	D	D	D	
5	35	B2	G H	G	H	—	H	H	H	
6	44	A	J K	J	—	—	K	K	K	
7	45	B2	L M	L	M	—	M	M	M	
8	46	B1	N O	N	N	—	N	O	N	
9	51	B2	a flat	✓	x	x	—	x	x	so The mark in B2 resembles more a # than a b
10	56	Tr 1	p d' : a flat	x	x	—	✓	✓	✓	
11	62		P Q	P	—	—	Q	Q	P	
12	71	A	R S	R*	—	—	S	S	S	* Lefkowitz 1 st ed. read S. Both (he says) are to be found.
13	76	B1	T U	T	—	—	U	U	U	
14	96	A	V W	V	V	—	W	V	W	
15	97		X Y	X	—	—	X	Y	X	
16	98-103	B2	Z AA	Z	Z#	AA	—	AA*	AA	# 100-103 only * No tie 102, No # 103
17	105	Tr 1	BB CC	BB	—	—	CC	CC	CC	
18		B1	BB CC	BB	CC	—	CC	CC	CC	
19	113-114	B2	semibreves: tied	x	✓	✓	—	✓	✓	

TABLE 1. *Critical commentary to the In Nomine of the Six-part Consort Suite no. 3 in B flat.*⁷

It is puzzling that B. 2 and B. 3 neither include nor even mention the essential organ part. Although Lefkowitz states⁸ that

The organ parts... are simply reductions of the other parts. Rarely do they add new material to the work as a whole... In modern performances they had best be omitted, since they interfere with the quality of the consort and are not at all necessary to the music,

⁷ The 'John Browne' books referred to in the list of sources are in private ownership. *Addenda and Corrigenda* for Table 1. Items 2 and 4: insert D in column 29410-5. Item 5: insert H in column 17798. Textual variants should read: G, *fd f D*. H, *fd a D*.

⁸ (1960), op. cit., pp. 45-6.

there are not a few instances where the organ has vital independent material that makes performance without it meaningless (Figs. 1, 2).⁹ William is usually punctilious in noting instrumentation, so that in pieces where essential material lies outside the string writing, there is no justification for assuming the definitive status of a score that lacks the material or even any mention of it.



FIG. 1. Suite no. 4 à 5 in F major:
Pavan, bars 28-30.



FIG. 2. Suite no. 4 à 6 in G minor:
Fantasy, bars 20-1.

There is a more general query about the state of Lawes' works for viol consort as we have them: Henry Lawes mentions (in the Preface TO THE READER, *Choice Psalmes*, London, 1648) William's fancies 'of the Three, Foure, Five and Six Parts to the Viols and Organ'. Where are the three- and four-part fancies? These are not likely to have been the violin sonatas: Henry, official composer for the violins in the Royal Music, would not have slipped so in listing works that he mentions specifically 'lest being, as they are, disperst into private

[15] hands, they may chance be hereafter lost. . . . B. 2 contains six pieces for four viols (Tr Tr B B) grouped by Lefkowitz into two sets. For these no organ part is extant, nor again does B. 2 mention one. Is it possible that part-books existed or may still exist for a set of three and four-part works? As it is, Henry's statement gives yet another pointer that the string scores of B. 2 and B. 3 are in themselves insufficient in establishing William Lawes' best and latest intentions regarding his consort sets.

The consort sets have not yet received the attention they deserve, nor has sufficient notice been taken of their uniqueness. Their apparent lack of predecessors (unless one counts Lawes' near-contemporary Pierson's

⁹ E.g. Fantasia no. 2 in F major a 6 bars, 28-31, Fantasia in G minor a 6, the series of accompanied duets, bars 20-40.

I am much indebted to Layton Ring for the first of the examples appended.

Fantazia-Almaine groups)¹⁰ and imitations is remarkable: Matthew Locke's consort sets a 4 (if in fact for viols and not string music for any combination) imitate the form of the violin sets of Coperario and Lawes, and lack obbligato continuo; in Lawes' sets moreover the movements are invariably in quadruple

[16] or duple metre, which argues for the especial creation of a form to parallel the early violin sonata that was coming into favour at court, using instead the older and more dignified In Nomine and Pavan. Within Lawes' sets is extraordinary variety of texture, moving from the Coperario-like double fugue of the first fantasia in A minor a 5 to the superb late set in C minor a 6, where the melodic interest has polarized to the treble and bass parts. These suites are quite *sui generis* in all ways and should be given the detailed treatment they deserve.

¹⁰ The John Browne part-books give the title of Almaine to some of Lawes' ayres.

[17]

The Viol Lyra-Way

COLETTE HARRIS

The adjective lyra (variously spelt leero, leera, liera, in this context) was used in England from the beginning of the seventeenth century to refer to a new genre of viol playing. It is first evidenced in Robert Jones' *The Second Booke of Songs and Ayres* (1601), in a large number of manuscripts and about ten other printed sources during the early part of the century. This genre is named after the Italian lyra da gamba or lyrone, a bowed instrument with a flattish bridge, used for chordal playing.¹ Playford's derivation of the word from 'harp'² would seem to have no foundation in fact.

Contrary to the opening statement in the introduction to the modern edition of Playford's lyra viol tutor ('There is reason to believe that the Lyra Viol developed from the Italian Lyra da Gamba'), the lyra viol takes nothing of its construction from the lyra da gamba,³ although its function as a continuo instrument is very similar to that of the lyrone in Italy. It is often thought that bowed stringed instruments must, in the seventeenth and eighteenth centuries, have had flatter bridges than at present (or else some strange form of bow) so that all the notes of a chord could be played simultaneously, as on the modern piano. On the harpsichord, however, chords are rarely played in this way, although it would be perfectly possible; chords are played in a deliberately arpeggiated manner both on the harpsichord and the lute. In contemporary writings different ways of varying this 'breaking' of chords are discussed. This suggests strongly that sounding all the notes of a chord simultaneously was not considered the attainment of perfection at the time. Why, therefore, should chords in the Bach solo violin works, for instance, or in lyra viol music not be arpeggiated? A flatter bridge or a 'Bach bow' would be hindrances in playing the many cross-string passages and fast runs found in this music.

Nor is lyra viol the English name for the viola bastarda.⁴ Both

[18] terms refer not to specific instruments, but to styles of playing, and viola bastarda music consists of rapid divisions, passing quickly over most of the range of the instrument, but no chords, and was written in staff notation (Fig. 1) whereas lyra-viol music was almost invariably written in French lute tablature. The viola bastarda was known in England as the division viol.

¹ Cf. Silvestro Ganassi, *Regola Rubertina* (Venice, 1542/3), bk. 2, Fii.

² J. Playford, *Musicks Recreation on the Viol Lyra-Way* (1682), A2.

³ Nathalie Dolmetsch, *Playford's 'Musicks Recreation on the Viol Lyra-way', 1682, with a historical introduction* (London, 1960), p. viii. On the next page, however, is the statement that the lyra viol 'was a true viola da gamba'.

⁴ Several dictionaries equate the two terms, including C. Sachs, *Real-Lexikon der Musikinstrumenten* (Dresden, 1913), *Grove's Dictionary of Music and Musicians*, 5th edition (London, 1954), and S. Marcuse, *Musical Instruments, a Comprehensive Dictionary* (London, 1964).

The confusion over the relationship of the lyra viol and the viola bastarda seems to have arisen from a misunderstanding of the section on the viola bastarda in Praetorius' *Syntagma Musicum*.⁵

This is a kind of viol, and therefore is also tuned like a tenor viola da gamba (and it can also be used when a tenor is lacking). But the body is somewhat longer and larger. I do not know if it took its name from being a bastard of all voices, since it is bound to no one voice, but a good master takes the madrigals and anything else he wants to perform on this instrument and seeks the points of imitation and harmony most diligently from one to another, at one time above on the treble, at another underneath on the bass, and then in the middle on the tenor and alto parts, using leaps and divisions and also tries to reproduce almost all the parts, at least in their points and cadences.⁶ However there are some violas bastarda tuned in various ways, as can be seen in the table, and in many more ways, after which the master has set and arranged the music.⁷

So far the similarities between the two terms are that they both apply mainly (but not exclusively) to a size of viol intermediate

[19] between the usual tenor and bass, and that both styles of playing employ scordatura. It is the next section from Praetorius which is the most misleading, since he himself equates the terms viola bastarda and lyra viol, by describing a peculiarly English form of viol used for lyra-viol music, under the heading viola bastarda:

Now in England there is in addition a strange invention: under the proper and normal six strings lie eight further steel and twisted brass strings, on a brass topped bridge (like that used for pandoras), which must be tuned exactly as the upper ones. Then, when one of the upper, gut, strings is sounded by the bow the lower brass or steel strings resonate *per consensum*

⁵ Praetorius, *Syntagma Musicum*, vol. 2, 'De Organographia' (Woffjenbiittel, 1618), p. 47. The passages from the *Syntagma* are my own translations. 'Dieses ist eine Art von Violin de Gamba, wird auch gleich also, wie ein Tenor von Violn de Gamba gestimmt, (den man auch in manglung darzu brauchen kan). Aber das Corpus ist etwas longer and grosser. Weiss nicht, Ob sic daher den Namen bekommen, dass es gleichsam eine Bastard sey von allen Stimmen; Sintemal es an keine Stimme allain gebunden, sondern ein guter Meister die Madrigalien, and was er sonst uff diesem Instrument musiciren wil, vor sich nimpt, and die Fugen and Harmony mit allem fleiss durch alle Stimmen durch and durch, bald oben aussm Cant, bald unten aussm Bass, bald in der mitten aussm Tenor and Alt herausser suchet, mit saltibus and diminutionibus zieret, and also tractiret, dass man ziemlicher massen fast alle Stimmen eigentlich in ihren Fugen and cadentien daraus vernehmen kan.... Es werden aber solche Violn de Bastarda uff mancherley Art gestimmt, als in der Tabell zu ersehen, and noch uff viel andere weise mehr, darnach der Meister den Gesang gesetzt and gerichtet hat.'

⁶ Ortiz says exactly the same in his *Tratada de glosas sobre clausulas* (Rome, 1553), p. 72, adding that a harpsichord could perform the plain version of the madrigal while the viol was embellishing it.

⁷ 3 In the table Praetorius gives (besides ffeff): fffhf; fhfhf; ffehf; fhfff (p. 26). These were also used in lyra-viol music, since they are the most useful tunings. (In describing the tunings I am using the seventeenth-century system, using tablature letters to describe intervals. If the second string down in the normal tuning is stopped at the fourth fret (f) it will be in unison with the top string. Therefore the interval of a fourth is called f; similarly a fifth becomes h, and a major third, e.)

at the same time, vibrating so that through this the sweetness of the harmony is not only increased but carries further.⁸



FIG. 1. *Part of a piece for 'bastarda' from Selva de varii passagii, parte seconda, by Francesco Rognoni (Milan, 1620).*

This description is substantiated by those in Bacon's *Sylva Sylvarum*⁹ and Playford's *Musicks Recreation on the Lyra Viol* (1661 edition). Playford says the instrument is no longer in use (in 1661) but that he has seen examples of it; he attributes its invention to Daniel Farrant (late sixteenth century-second quarter seventeenth century). This instrument is known to be mentioned in only two other sources. No such instrument has survived intact, and there is nothing further known about it. It is the mention of this instrument under the heading *viola bastarda* that has misled people into equating the terms *viola bastarda* and *lyra viol*, and sometimes into assuming that a *lyra viol* was a member of the unfretted d'amore family. In fact there is only one known Italian source of viol music containing chords—Silvestro Ganassi's *Regola Rubertina* (1542-3) (Fig. 2).

Tobias Hume uses the term *lyra viol* only when referring to a viol



FIG. 2. *Ricercar Primo from Regola Rubertina, book 2, by Silvestro Ganassi (1543).*

[20] tuned in bandora set (fefhf)—otherwise he calls the instrument bass viol, whether the music is in tablature or not, and whatever the written pitch of the music it is required to play. In *Poeticall Musicke* he says that the bass viols which play the tablature parts should be tuned a fourth higher than that used for the staff notation part, that is they should be in a *g'* rather than a *d'* tuning.¹⁰ The word *bass* is presumably used here to indicate the small bass

⁸ See Praetorius, *Syntagma Musicum*, II, p. 47.

'Jetzo ist in Engelland noch etwas sonderbares darzu erfunden, dass unter den rechten gemeinen sechs Saiten, noch acht andere Stalene and gedrehte MessingsSaitten, uff eim Messingen Steige (gleich die uff den Pandorren gebraucht werden) liegen, welche mit den Obersten gleich and gar rein eingestimmt werden miissen. Wenn nun der obersten dermern Saitten eine mit dem Finger oder Bogen geriihret wird, so resonirt die unterste Messings- oder Stalene Saitten per consensum zugleich mit zittern and tremulieren, also, dass die Liebligheit der Harmony hierdurch gleichsam vermehret and erweitert wird.'

⁹ Sir Francis Bacon, *Sylva Sylvarum* (1627 edition), cent. III280, p. 72. 'It was devised that a violl should have a Lay of Wire Strings below, as close to the Belly as a lute ... To the end, that by this means, the upper Strings strucken should make the lower resound by Sympathy and so make the Musicke the better.'

¹⁰ A *d'* or *g'* tuning means one in which the top string is tuned to the given note (i.e. the D or G above middle C).

viols which were used in performing this music, and which could equally well be tuned as tenors, as Praetorius suggests for the viola bastarda (see above).

Any size of viol can be played lyra-way (that is, from tablature, and usually using chords in a polyphonic manner). For the convenience of the left hand in the formation of chords, a viol smaller than the standard consort bass was favoured. Tablature is not a fixed-pitch notation, and therefore can be played at any pitch; only when there is also a staff notation part is there any indication of fixed pitch. Even then it is not always certain that the staff notation part is not transposing or transposable (as in the case of songs, for instance, when the bass part and the voice part are not invariably written in the same key—for example, Hume's 'What greater Griefe' from *Poeticall Musicke*).

Hume seems to have been thinking in terms of a d' tuning in most of *The First Part of Ayres*, and that he thought at this pitch is suggested by the instruction in *Poeticall Musicke* where the lowest string is to be tuned down a tone. He gives the direction 'double cee fa ut', although the instrument is in a g' tuning (that is the bottom G string would be tuned down to F, whereas in a d' tuning the string would be tuned to C). There were many scordature—over forty—used in the seventeenth century, although only a few were used during the first two decades (cf. lute tunings).¹¹

The viol lyra-way became a worthy rival of the lute, in solos, consorts, and as a continuo instrument. By the middle of the seventeenth

[21] century it had certainly achieved what Hume had already claimed for it in 1607:

And from henceforth, the statefull instrument Gambo Violl, shall with ease yeelde full various and as devicefull Musicke as any other instrument. For here I protest the Trinitie of Musicke, parts, Passion and Division, to be as gracefully united in the Gambo Violl, as in the most received Instrument that is.¹²

¹¹ F. Traficante, 'Lyra viol tunings: "All Ways have been Tryed to do It"', *Acta Musicologica*, XLII (1970), 183-205.

¹² Hume, *Poeticall Musicke* (London, 1607), G^v.

[22]

The Sound of Viols

CARL HUGO AGREN

Why do we play viols? The most important reason is that there is a great store of extremely fine music for the performance of which there is no acceptable substitute, for reasons of range, tuning, and tone colour. Unfortunately there is, in viol-playing and viol-making circles, a kind of deadly reverence for tradition. The traditionalist argument seems to be that all possible experimentation had already been done in the sixteenth and possibly seventeenth centuries and that it is impossible to improve the designs produced by the ancients. In fact, I believe it is quite possible to improve the viol family very considerably. For this, an understanding is necessary of how a viol really works and how it should be designed in order to produce the best results in terms of power, evenness and ease of playing. Modern technology has made it possible to secure and utilize this knowledge. The present article will describe something of the inner workings of the viol and indicate some of the numerous problems still to be tackled.

Some fundamentals of viol technology

From the physical point of view the viol is a mechanical amplifier which makes the weak sounds of strings audible to our ears by utilizing the natural resonances of the viol body. A viol body does not respond equally strongly to excitation through its whole range. At some frequencies (the natural resonance frequencies) it responds very much more strongly than at the rest. The most important resonating elements of a viol body are the belly, the back and the enclosed air mass. For the belly and back there exist definite lowest resonance frequencies. These we will hereafter call the belly fundamental and the back fundamental respectively. The fundamental of a plate is influenced by many factors, the most important of which are listed in Table 1.

At its fundamental resonance a viol plate moves as one unit, that is, at a given moment all parts of the plate move in the same direction. At the next resonance it is divided into several parts with node lines between them. A plate element on one side of a node line moves in the opposite direction to an element on the other side. The number of elements the plate splits into depends on boundary conditions, that is, plate geometry, sound-post position, and sound-hole placement. Combinations of several resonance patterns are possible and are of

[23]

TABLE 1. *Parameters influencing frequency of belly fundamental*

Parameter	Influence
Plate size	—
Plate thickness	+
Arching height	+
Arching profile	complex
C-hole size	—
Bass bar length	+
Bass bar height	+
Bass bar profile	complex

+ indicates pitch increase as parameter increases.

— indicates pitch decrease as parameter increases.

some importance in viol design. Some such patterns will be shown later.

The frequency of the air fundamental is determined by the volume of the enclosed air mass and the size of the openings whereby the air mass communicates with the exterior. This frequency can be computed with an empirical formula very closely resembling the Helmholtz formula for a resonator. The reason that the Helmholtz formula cannot be used as such is that the original formula is only valid for resonators with rigid walls and circular openings. The air resonance formula which will be shown takes wall losses and non-circularity of the sound holes into account.

When a string instrument is designed, the lowest note of the instrument forms the single most important design parameter: it is much more difficult to extend the range of a string instrument downwards than upwards, and it is reasonable to expect the instrument to be even through the range intended—something that is not true for most classical violins, especially the smaller ones. A definite criterion can be formulated which tells us how the plate and air resonances of a string instrument should be arranged in order to produce an even, powerful and well-sounding instrument. The experimental evidence is based on the examination of several hundred violins, 'cellos and violas. Lately it has also been shown to be valid for viols.

One further term should be clarified before going on, namely the wood prime. This, in the case of viols, is the frequency one octave lower than the belly fundamental. When a note of this frequency is played, its second partial coincides with the belly fundamental and is therefore amplified, which the ear hears as an increase in loudness of the note played. The wood prime only becomes active when the viol is excited by wave-forms possessing higher partials, not when excited by sine-waves, which, by definition, have no harmonics. In

[24] practice, the waveform fed to the viol at the bridge is a saw-tooth form¹ which makes the wood prime very prominent. The Saunders-Hutchins criterion² briefly states that in order to get a stringed instrument even, powerful and well sounding, the wood prime should be placed about two

¹ C. M. Hutchins, A. S. Hopping and F. A. Saunders, 'Subharmonics and plate tap tones in violin acoustics', *J. acoust. Soc. Am.* XXXII (1960), 1443-9.

² a C. M. Hutchins, 'The physics of violins', *Scient. Am.* CCXII, No. 5 (November 1962), 78-93.

semitones above the lowest note of the instrument, which means that the belly fundamental comes about 14 semitones (a major ninth) above the lowest note, with the air fundamental placed midway between these two resonances.

How does this work out in practice? Taking a treble viol of the classical design as an example, measurements have shown that a top plate for a cornerless model with a length of 360 mm has a frequency for its fundamental c. 440 Hz, that is, a'. This means that the wood prime comes one octave lower than this, namely A on the second fret of the G string. This is a perfect fourth higher than it really should be, and is the major explanation for the notoriously weak bottom D string of the classical treble viol. Furthermore, the a' at 440 Hz happens to be the third partial of the open bottom D string, which means that when this note is played, the bottom D string also vibrates. This absorbs the energy of the top plate fundamental and in turn this means that the strongest wood resonance of the whole instrument is effectively eliminated altogether, which is certainly not desirable. The proof of this is the fact that, if a treble of this sort is excited at 440 Hz and the bottom D string is damped, a very considerable increase in loudness is noticed. If the bottom D string is taken away it is, of course, stopped from absorbing energy and the belly fundamental becomes usable again.

Thus the classical treble does not fit the Saunders-Hutchins criterion at all but there are good reasons to say that it should. A *full-sized* treble which it is perfectly possible to make could tackle first treble, low second treble and high tenor parts with ease, eliminating the need for the alto which is even more undersized than the treble.

A survey of viol measurements

The following techniques have been used in making the measurements. A typical set-up for driving a viol by a sine wave is shown in Figure 1. The viol is held firmly by its lower bouts and the lower end of the neck. A coil surrounding a permanent magnet, both taken from a loudspeaker, is clipped to the bridge, or some other place, and is connected to a sine-wave generator of low impedance output (c. 5-10 ohms) covering the frequency range of at least 20 to 2000 Hz.

[25] Output power from the sine-wave generator should be about 1 watt. If a plate instead of a complete instrument is to be measured, a tuning jig is used, which consists of a heavy wood block with a cutout in the middle corresponding to the inside of a finished instrument. The plate to be measured is clipped to the front side of the jig, across the rear of which is a stout crossbar with a threaded hole that carries the long screw which acts as a sound-post and is used for belly measurements. The artificial sound-post is not used for back plates. A typical tuning jig for a classical treble is shown in Figure 2.

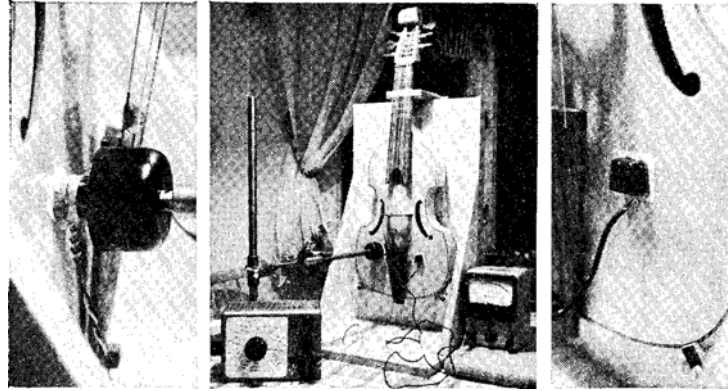


FIG. 1. *Viol measurement set-up. Mao num treble viol in tuning with sine-wave generator to the left, feeding loudspeaker coil, and contact pick-up to the right (centre). Close-up of loudspeaker coil and magnet (left) and contact pick-up (right).*

The reaction of the instrument or plate can be studied by several different means. By far the most sensitive of these is hologram interferometry, typical results of which are shown in Figures 3 and 4. This method has been described by Agren and Stetson (1972).³ Another method is to measure the sound radiated from plate or instrument with a sound-level meter. For the best result a reasonably echo-free room is necessary. A typical result of such a measurement is shown in Figure 5 and gives sound level as a function of frequency. All important peaks can be located in this curve.

For the worker with small resources there are, however, two little gadgets which are neither expensive nor complicated. One is a piezoelectric pick-up. It is sold as a guitar accessory and is called a contact pick-up or possibly a contact microphone. For measurement purposes this pick-up has to be lightened by cutting away the clip and

[26] much of the case. It will then come down to a weight of around 2 grammes, which is light enough not to disturb the resonance very much. In use this pick-up is fastened with double-sided adhesive tape to an antinode and its leads are connected to an AC voltmeter. When the spot where the pick-up is fastened vibrates, a reading is obtained so that all that has to be done is to change the frequency of the sinewave generator slowly while watching the voltmeter. The leads from the pick-up must on no account touch those to the driver coil, or the pick-up will read the driving force, not the response of plate or viol. As an extra precaution against mechanical vibration the voltmeter should rest on a piece of foam rubber.

The second gadget is a simple stethoscope. It consists of two lengths of hose going from the C-holes of the viol under study to the observer's ears. It is used to detect the air fundamental as the frequency of the sine-wave

³ C. H. Agren and K. A. Stetson, 'Measuring the resonances of treble viol plates by hologram interferometry and designing an improved instrument', *J. acoust. Soc. Am.* LI (1972), 1971-83.

generator is slowly changed. There is no possibility of missing the air fundamental this way!

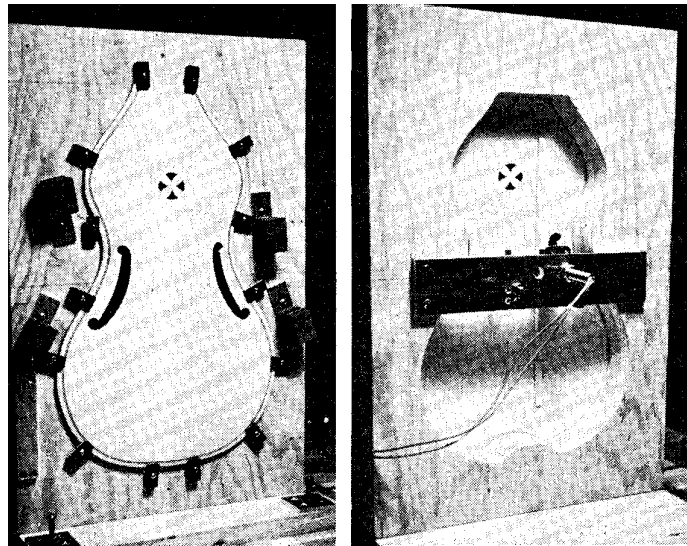


FIG. 2. *Tuning jig for a classical treble viol.*

Vibration can also be measured photoelectrically, i.e. by bouncing a light beam off the vibrating surface and measuring the change in reflected light.⁴

[27]

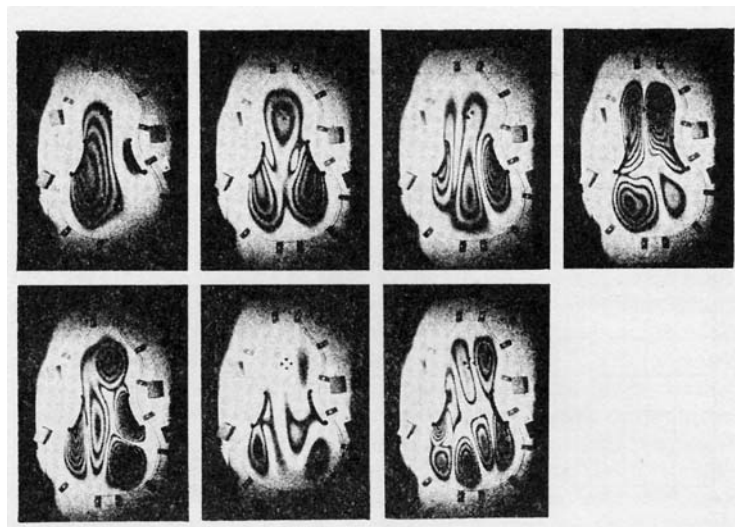


FIG. 3. *Holograms of resonances in a classical treble viol belly.*
484 Hz; 628 Hz; 760 Hz; 878 Hz;
960 Hz; 1118 Hz; 1408 Hz.

⁴ C. H. Agren, 'Electro-optical vibration probe using integrated circuits', *Catgut acoust. Soc. Newsl.* Spring 1973.

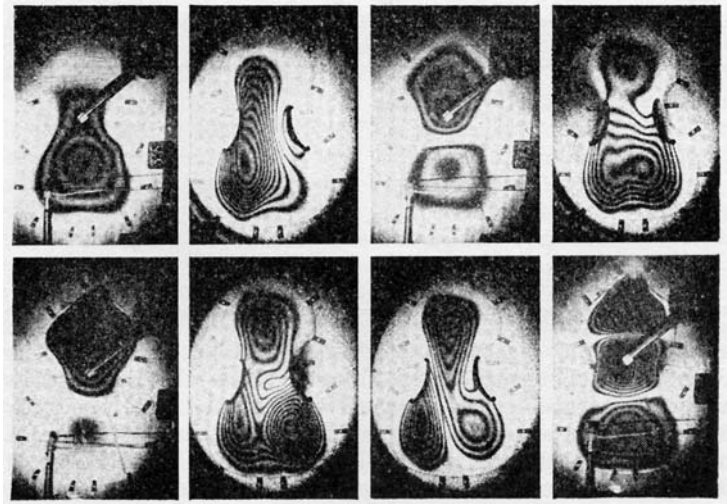


FIG. 4. *Holograms of resonances in back and belly of a Magnum treble viol.*
Back, 335 Hz; Belly, 350 Hz; Back, 373 Hz; Belly, 409 Hz;
Back, 446 Hz; Belly, 503 Hz; Belly, 535 Hz; Back, 565 Hz.

[28] The earliest measurements, on a bass viol built by the author are reported in *The Consort*, xxv (1968-9). More accurate measurements have since been made by contact pick-up and stethoscope and the results are shown in Table 2. The viol which is a copy of an old bass does not quite reach our criterion since the wood fundamental is too high.

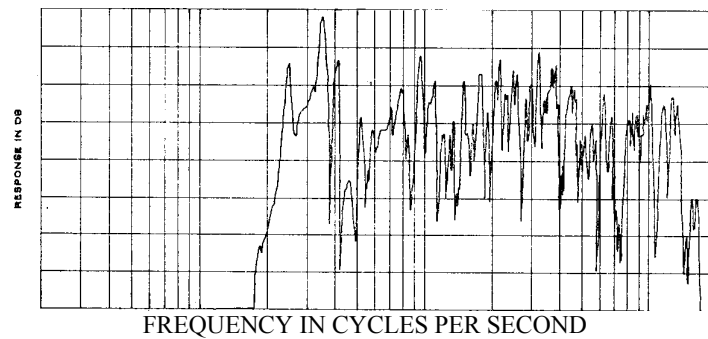


FIG. 5. *Sine-wave response of Magnum treble viol,*
Before addition of tuned back.

A second slightly modified classical treble viol shown in Figure 6 was built using the data from the bass so that the air peaks and the air fundamental accorded with our criterion. Its belly fundamental, however, is too high, which indicates that this viol is too small. After this viol was finished, the tuning jig was conceived and used for hologram interferometry on a belly of the same kind. The holograms of Figure 3 show that it is considerably too small to make good peak distribution possible. However, a way was found to cure too high belly fundamentals, partially, by fixing small weights

TABLE 2. *Resonance frequencies and values of Q of bass viol by Carl Hugo Ågren, 1966*

Air	Top plate	Back plate	Q
121	—	—	—
—	191	—	30
—	—	238	26
—	242	—	—
—	—	287	41
—	—	310	26
—	—	324	—
—	338	—	47
—	418	—	68
—	448	—	44

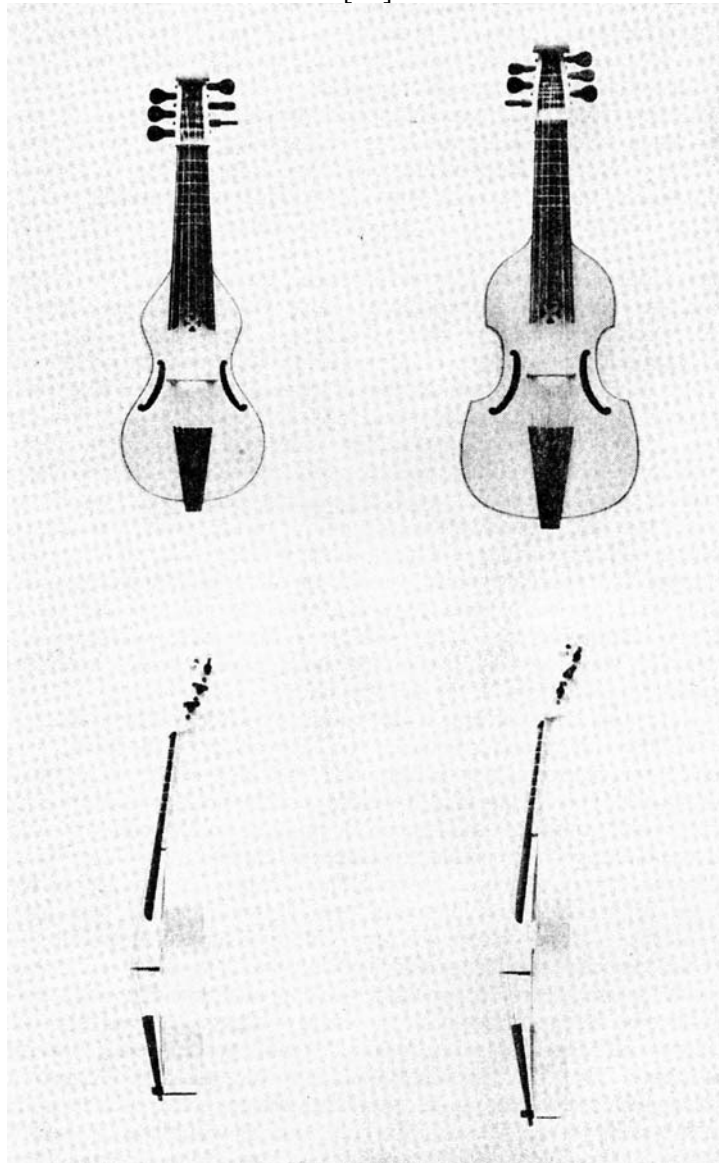
[29] to the centre of the bass bar. For this size belly 8 grammes of lead strip shifted the belly fundamental from 440 Hz to 370 Hz, making the viol very much more even than before. Plate loading can be a very useful tool in saving recalcitrant trebles.

Starting from the data on the classical treble, an entirely fresh start was made by calculating the body length which would be required to achieve the belly fundamental frequency required by the Saunders-Hutchins criterion. A body length of 430 mm was required, which meant that, in order to keep the air fundamental at the proper value (245 Hz) the proportions of the classical treble viol had to be abandoned altogether and a drastic reduction in rib height introduced. This new instrument, called the Magnum treble viol because of its size, is compared with the classical design in Figure 6. The increased size makes this viol more comfortable to play than most classical trebles. It sits very well on the player's knees—a result of the broad lower bouts—and the increased string length means that playing in high positions is quite comfortable. This viol fits the Saunders-Hutchins criterion exactly, and its peak frequencies and resonance patterns are shown in Figure 4. Its playing qualities are extremely interesting. While keeping the tone colour of the classical treble, its volume will exceed that of a good modern violin. One thing should be noted in the holograms. Belly and back of the Magnum co-operate—the back has resonances when the belly has not and vice versa. This is intentional, and is the result of a theory for belly-back co-operation which will be briefly cited here, since it throws a certain light on the workings of the flat viol back.

Let us now consider how a viol back may work and be excited. It is supposed to resonate between the resonances of the belly. The belly between resonances is very stiff and only moves with small amplitudes. This means that, if we suppose the back to be excited by sound-post pumping-movement in relation to the ribs—we run into conflicting requirements, since sound-post pumping also requires belly movement, which as we have laid down is hard to obtain between belly resonances. Between belly resonances, the belly-rib-sound-post system forms a constant motion generator (a parallel to the constant current generator of electronic theory) with a considerable inertia. More clearly formulated, this means that the belly-rib-sound-post system imposes a very small but persistent motion

(not a force) on the back, which amplifies this motion by means of natural resonance. Now, if a vibrating object is to be excited by a constant motion generator it should be coupled to the generator near its node lines, not its points of maximum vibration as would be the case if a constant force generator were used. The bow-string-bridge system is roughly a constant force generator, while most piezoelectric

[30]



*Classical treble viol (left) and Magnum treble viol (right).
Note difference in body length and rib depth.*

[31] drivers are constant motion generators. Our driver coil is a constant force generator, that is, it applies a force to the belly irrespective of how the belly reacts. The back of the Magnum has node lines through the sound-post point practically all the time, as the' holograms show (Fig. 4). Nevertheless, its resonances are very strongly excited, which can be taken as an indication that the node excitation theory is, at any rate, not impossible. It should be noted that there are other explanations for plate co-operation besides that outlined above.

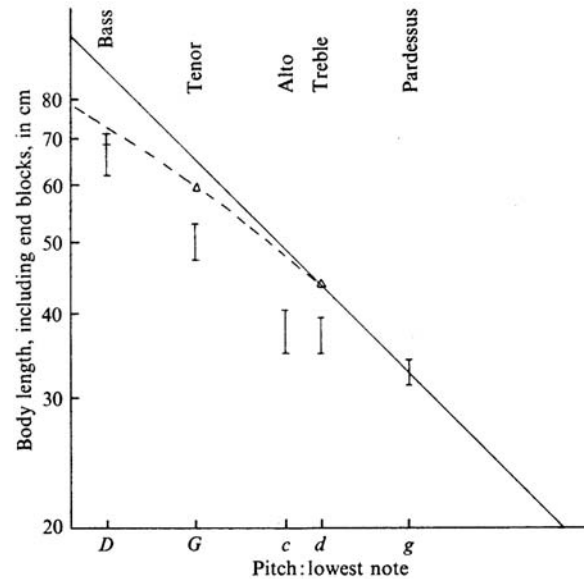


FIG. 7. Size as a function of pitch for violas. The practical curve is shown dotted where it differs from the theoretical curve. The size limits for classical violas are taken from N. Dolmetsch, *The Viola da Gamba* (London, 1962). In the case of bass violas the upper part refers to consort violas and the lower part to division violas. Δ, Magnum violas.

The problems of air resonances

The derivation of the empirical formula for the calculation of the air fundamental is based on measurements from the three violas mentioned above, all of which have roses. In Table 3, d is the length of a C-hole and V is half the enclosed air volume. This is because a viola body with two C-holes is two Helmholtz resonators.

We know from Helmholtz that for a resonator the resonance frequency is directly proportional to $\sqrt{d/V}$. In Table 4 this value in the three cases is compared with the measured frequency value. The

[32] velocity of sound in air, c , at room temperature is taken as 3.45×10^4 cm/sec.

In Table 5 the ratio of the measured frequencies to the theoretical frequencies for a resonator with rigid walls, circular openings of diameter d and enclosed volume V may be seen to show good correlation for all three violas.

TABLE 3

Viol	V, cm^3	d, cm	Air fundamental frequency, Hz
Bass	11,174	14.3	121
Classical treble	1,554	8.3	244
Magnum treble	1,970	10.5	240

TABLE 4

Viol	d/V	$\sqrt{(d/V)}$	$\frac{c}{2\pi} \sqrt{\frac{d}{V}}$
Bass	0.128×10^{-2}	0.0358	197
Classical treble	0.534×10^{-2}	0.0732	402
Magnum treble	0.534×10^{-2}	0.0732	402

TABLE 5

Viol	$\frac{\text{Measured frequency}}{\text{Calculated frequency}}$
Bass	0.61
Classical treble	0.61
Magnum treble	0.61

The empirical formula for the air fundamental for viols with roses under the fingerboard may be written:

$$f_{\text{air}} = \frac{0.61 \times c}{2\pi} \sqrt{\frac{d}{V}}.$$

Simplified for practical use this becomes:

$$f_{\text{air}} = C \times 10^3 \sqrt{\frac{d}{V}}.$$

The value of the constant, C, for the viols described is 3.36; however, later observations have shown that it varies according to the type of belly arching. Furthermore, roses, in general, raise the frequency of the air fundamental by about a semitone.

[33] As a rough estimate of the air fundamental frequency can be made, knowing the volume and sound-hole size, it follows that this frequency can also be estimated from stereo photographs by photogrammetric methods. Measurements made by the author suggest that the air fundamental of the classical treble viol usually lies about one semitone above the wood prime. However, lesser intervals are frequent, and cases of coincidence between wood prime and air fundamental have also been observed. In the case of coincidence, the wood prime strengthens the air peak, which in turn strengthens the wood prime and so on, producing a wolf note. It should be added that the frequency interval in which this occurs is extremely narrow, so that a wolf note can perfectly well exist, without being noticed, between two frets.

The coincidence can be eliminated by fixing a small weight at the centre of the bass bar to lower the frequency of the belly fundamental and thus of the wood prime, moving one of the coinciding frequencies. Of course, the air fundamental can also be moved, but this is rather more troublesome,

since this means either a reduction of rib depth, an increase of C-hole area which is seldom practical or the addition of a rose. For classical trebles with rib depths above 70 mm there is a risk of coincidence. Strangely enough, basses seem to be free from this, whereas some tenors are afflicted. A treble with coincidence can generally be cured by a plate load of 3 to 5 grammes. Doublesided adhesive tape is excellent for fixing the weights when trying out the final weight. It should be added that plate loading does not have a muting effect. This only happens when the weight is fixed to the top of the bridge.

Family size relationships

Having found a workable size for one member of our viol family we can calculate suitable sizes for the rest. Plotting log body length against frequency should in theory give a straight line with a slope of 45° , meaning that a bass would be twice as long as a treble, a tenor twice as long as a pardessus and so on. This is the full line labelled 'theoretical curve' in Figure 7. In practice this is not quite true, since the larger a plate becomes, the more elastic it is in relation to its size, and the practical curve does not reach the theoretical value.

It is interesting that the two sizes which managed to survive longest (bass and pardessus) are practically the size they should be. Treble, tenor and alto are far too small for their ranges, especially the alto. The division viol is almost an acoustical impossibility, but a very handy division viol can be produced. If we take a Magnum tenor as a starting point, this should have its air fundamental with $e = 165$ Hz

[34] and its wood fundamental at about 235 Hz. If a division bass neck is put on a Magnum tenor body, the air prime (frequency one octave below the air fundamental) falls two semitones above the lowest note of the division bass range, while the wood prime comes 2 to 3 semitones above the open G string. This peak spacing could also work, although the sound of the lowest string may not be very bass-like, since its fundamental would be weak and most of the energy is in its second partial.

[35]
Book Review

John Dowland

DIANA POULTON

520 pp. £12.00. Faber & Faber, London, 1972

Dr Burney complained of Dowland's 'want of melody and design' and his 'unwarrantable' harmony while Fétis, nearly a century later, expressed amazement that three of Dowland's songbooks, 'in spite of the mediocrity of their merit as works of art', were sold for the 'enormous' sum of £12.15. Diana Poulton does not have to contend with these views among present-day musicians, still less antiquarian booksellers, but the fact remains that here is the first extended study of England's greatest lutenist, who was also one of her supreme songwriters. The materials for this study are widely scattered, and what is surprising is not that it should have taken Mrs Poulton thirty years to assemble them, but that one person should have been able to achieve it at all.

Dowland was by no means reticent about his personal life, but his information has to be treated with caution. It appears to be coloured by the immediate purpose of its disclosure, and whenever possible his statements have been meticulously checked. Unfortunately earlier biographers have not only accepted Dowland's account of himself without question, but have grafted on still more unreliable theories of their own, so that the turning of Mrs Poulton's battery of scholarship on to the accepted facts of Dowland's life leaves one with rather less knowledge than one thought one had before—but it is knowledge.

As regards the music, apart from the rejection of a few probably spurious works, all is gain. An exhaustive catalogue is given of his solos, songs and consort music, listing all known copies (except for a few pieces in the Schele lute manuscript, in the Hamburg Stadtbibliothek, which was rediscovered too late, but is discussed in an appendix).

Of the 200 or so extant lute solos, 13 occur in reliable printed editions, there are three manuscripts in Dowland's autograph and six others are signed. For the rest, not only the accuracy of the text but also the authorship is often in doubt. All the available information is here assembled to establish reliability, provenance and date. Mrs Poulton devotes nearly 70 pages to the discussion of individual works, which might have been better placed in her impending publication with Basil Lam of the complete solo works.

[36] In the next chapter, dealing with the songbooks, it could be objected that the detailed descriptions of the format and reproduction of the prefatory material are made unnecessary by the now readily available facsimiles published by the Scolar Press, but certainly much of inestimable value remains. The English lute song is put into historical perspective, and Dowland's songs are shown to have strong native roots, not greatly

influenced by his foreign travels. The authorship of the lyrics is established wherever possible and, though it cannot be proved that none were written by the composer, Mrs Poulton points out that this is unlikely in view of the obvious inferiority of his known verses. The theory that he was a singer is still more convincingly demolished. Perhaps the most valuable contribution in this section is the elucidation of difficulties in the lyrics—many solved by restoring the original texts, ‘improved’ by later editors.

Though Mrs Poulton discusses the two songs with broken consort printed in William Leighton’s *Teares or Lamentations of a Sorrowfulle Soule*, she mentions the Dowland settings in Morley’s *First Booke of Consort Lessons* only in passing, and the greater part of the chapter on the consort music is concerned with the *Lachrimae* sequence. It is argued convincingly that the lute is essential to an authentic performance; there are many precedents for the doubling of the cantus part by the lute, the viol consort alone becomes painfully static at the cadences, and the relatively few harmonic discrepancies are readily explained as misprints. It would seem to the reviewer that these pieces are to be treated in the same way as the songs, ‘so made that all the parts together, or either of them severally, may be song to the Lute’, and that the *Lachrimae* pieces should be performed by lute and one to five viols, the cantus part being obligatory at least when not included in the tablature.

An interesting chapter is devoted to biographies of Dowland’s patrons and friends. It is perhaps unreasonable to wish that their relevance could be understood without reference to the index. The book ends with a review of Dowland’s posthumous reputation, reflected in republication of his works and opinions expressed by later writers.

One cannot but regret that a book of such importance has to be so expensive. Had the author possessed foreknowledge of the Scholar Press facsimiles, and taken into account the almost simultaneous publication of her own edition of the solo music, some overlapping might have been avoided with some reduction in cost. But one’s main reaction must be gratitude.

DESMOND DUPRÉ

[37]
Music Reviews

WILLIAM BYRD.
Collected Works. Vol. 17. Consort Music

Edited by Kenneth Elliott. £4.75. London, Stainer & Bell, 1971

How fortunate it was that Dr Fellowes chose to add a volume of 'Chamber Music' to his edition of the 'Vocal works of William Byrd'. A wide selection of Byrd's consort music was thus presented in a compact and convenient form and there must be many others like myself for whom this volume provided a first real insight to the skill of Byrd's instrumental writing.

A disadvantage of Fellowes' edition is that the works are edited with the object of making them more suitable for the violin family and he has not only reduced the time value of the notes and added phrasing and bowing marks but also transposed most of the works up to suit the violins.

A new edition of this volume is therefore most welcome and Dr Elliott has performed his task well. All bowing and other marks have now been eliminated and the works have been restored to their original stave pitch. In addition the number of works has been augmented by a further four fantasies, one dance and three new hymn settings as well as completing those only quoted in Fellowes as fragments of lute pieces and correcting and adding to the existing hymn settings. Some like myself will perhaps regret the passing of Fellowes' no. 3 a from this edition, but it is of course still available elsewhere for those who do not agree with the Editor's reasons for omitting it. Dr Elliott has completed more of the fragmentary works than Dr Fellowes did for his edition, and whereas the latter contained only one such work, a Fantasia a 6 with added inner part, the former contains eight and two verses of a ninth. In two of the works completed by Dr Elliott, a Fantasia a 6 and a Pavan a 5, inner parts have been added and the editor was fortunately able to adapt them from other settings by Byrd. In the other cases the top part has been added and I find this less satisfactory since, to the listener, the work often becomes identified with the top lines. Nevertheless it does enable the works to be played which is perhaps the more important thing, and there is also always the hope that the missing parts may eventually come to light.

The general presentation of this volume is good and the music clear and not tiring to read. The textual commentary is a welcome addition to the volume, making it suitable for study purposes as well as providing practical scores for the instrumentalist.

[38] For the two pieces I chose to investigate fully I found the commentary quite straightforward and reasonably easy to follow. Some may object to the failure to indicate on the musical text all the minutiae of editing but I find this over-fussy, as reference can always be made to the textual commentary.

It is rather distressing to see that the original note values have been halved again in this new edition. This is not a necessary consequence of modernizing the notation and I fail to see any good musical reason for doing so. Fellowes' reason was to make the music look more 'normal' to present-day performers but I do not think this an acceptable reason today. It also has the disadvantage that it introduces many more quavers into the music and consequently the need to group them in some way. This grouping is then a form of editing which is not always apparent and may impose a particular rhythm on the music which was not indicated in the original. There are of course places where a particular grouping is obvious from internal evidence but the choice can be left open by keeping the original note values.

Another slight criticism of this edition is the failure to use the C clef where appropriate. Why is it that early music is singled out in this way? No one would think of printing a Mozart quartet without using C clefs and I believe it was Einstein who pointed out that if you can read a score at all the clefs used do not matter. Uniformity with other volumes is a laudable excuse but surely it is time to change, especially for instrumental music.

Despite these minor criticisms this new edition is a very welcome and worthy addition to the complete works of William Byrd, and it should be on the shelves of all whose interests lie in English music, especially of the sixteenth and seventeenth centuries.

ANTHONY WOODFORD

[38]

MATTHEW LOCKE. Chamber Music: I, II.

Musica Britannica xxxi, XXXII

Transcribed and edited by Michael Tilmouthl,

146 and 109 pp. £10; £10. London, Stainer & Bell, 1972

Locke's significance as a composer of chamber music maintaining through the dark days of the Commonwealth the stream of English music, and as a link between Coperario and Lawes on the one hand and Henry Purcell on the other is asserted. Also that Locke was far more than a link in a chain but a distinguished and very important composer in his own right.

[39] The editor, Professor Tilmouth, takes the view that in the British Museum Add. MS 17801 Locke is attempting a revision and collection of his best work. This view is supported by inserted pages and gaps between items in the manuscript itself. This task was never completed and ends with the Canon 4 in 2 in six parts on a Plain song given by Mr William Brode of Hereford [16]54. This last item is written with a trembling hand shown in facsimile on p. xxii of the second volume and the editor asks 'whether it is unreasonable to conjecture that here we see the sands of time running out for Locke'. The date of Locke's death is now uncertain and there may have been other reasons for the non-conclusion of this work too complicated to go into here. Mr William Brode may have been the Rev. William Broad, M.A. who was appointed one of the vicars choral of Hereford Cathedral in 1633 and Vicar of Westbury in 1660. This canon probably formed part of the 'Winde-Musick' at the Naval Arch through which King Charles II passed in the City of London on his way to Westminster Hall.

The chronology of the consorts is discussed in much detail and with this for the most part I agree. There is one point I must stress, that the MS of the *Consort of Four Parts* in the Royal College of Music, MS 939 is, I am sure, the earliest copy of any of Locke's consorts in his own hand. The signatures at the beginning and at the end of this MS have a carefully and correctly written 'e' at the close of Locke's name. This also occurs in the first signature on his copy of *Cupid and Death*, British Museum Add. MS 17799, f. 3 r. After that his name written on f. 11 v and words ending with 'e' have the 'e' drawn with a flourish and form one of the means of distinguishing Locke's hand. This copy of *Cupid and Death* is dated 1659. I suggest therefore that the copy of the *Consort of Four Parts* in the Royal College of Music could have been written about 1658, certainly no later.

With regard to the *Broken Consort: Part One* having been composed for the King's Broken Consort: this seems unlikely as it was well known that King Charles had an 'utter detestation of Fancys' and the First Part of this consort begins every suite with one. The Second Part begins each suite with a pavan. The sequence of fantazies is thus broken, hence perhaps its name, *Broken Consort*.

The editor gives a number of contemporary views on the instruments to be used for the bass parts of a consort and the general result is that a viol is

the most useful. The upper parts written with the G or treble clef would most probably be played on violins. It is unfortunate that the original titles in Locke's hand have not been preserved. It is amusing, for example, that Locke composed music for his freinds—not friends.

[40] Professor Tilmouth points out that Locke's consorts have no thorough-bass composed throughout for any of his consorts, but that there are some figures in the two-part consort 'For seaverall Freinds' and in the *Broken Consort* Part I there are continuo parts for theorbos in Locke's hand for nine items, Oxford, Christ Church MS 773; also that in Locke's introduction to the *Little Consort* it was stated that this could be performed either alone or with theorbos and harpsichord. Here Professor Tilmouth gives valuable instructions for the realization of the continuo from Locke's *Melothesia* and Thomas Mace, *Musick's Monument*. However Mace's instructions that 'grave music' should be accompanied on a chamber organ and lively airs on a harpsichord are shown not to be suitable for Locke's music since a 'grave fantazie' may be followed by 'jocund and spruce airs'.

Professor Tilmouth has provided a theorbo realization of the continuo for *Part One of The Broken Consort*, and for *Part Two* a harpsichord realization, and also for the *Consort of Two parts* 'For seaverall Freinds'. *The Little Consort* has its continuo for theorbos or harpsichord, bass viol or 'cello.

Locke knew of course that players of his consorts would alter the tempo as suited them, as they do now. Locke's time signatures are kept in these volumes but further indications of suitable time are given, placed within square brackets.

Locke made little use of dynamic indications in the consorts, loud, soft, drag being the most used. Professor Tilmouth has provided necessary modifications.

The difficulties concerning ornamentation are considerable. In *Melothesia* the ornaments given by Locke himself and used by him in his organ and harpsichord music are a *Fore-fall*, a *Back-fall*, a *shake*, a *Fore-fall and Shake*, and a *beat*. In the consorts Locke almost ignores ornaments, and some have therefore been added. Locke's own numbering has been removed which is unfortunate, as it would make allusions to items in the Textual Commentary more readily found.

The Appendix to volume 1 gives extracts from the early MS of the *Flat Consort*, Guildhall, London MSS Mus. 469-71. This is particularly interesting, especially the early form of the Jigg, Canon 2 in one.

The Appendix to volume ii gives *The Oxford Suite*. Professor Edward Lowe of Oxford has written on the Oxford, Bodleian Library MS Mus. Sch. c. 44. 'This songe & Phantasye was made by Mr Mathew Locke to carry on the Meetings at ye Musik Schoole. Thursday ye 16th Novem: 1665.' The 'songe' is *Ad te levavi oculos meos*. The 'Phantasye' is scored in Professor Lowe's hand for two basses and two trebles. The Courante scored for the same instruments which follows was already in existence as stated. The first treble part

[41] of this is found with four other pieces at Oxford, Christ Church MS Mus. 1066 ff. 1-2. The sequence of pieces is: Allman, Corant, Saraband, Gavot and Tune for four parts. These are found again in the same order in the New York Public Library, Drexel 3976 pp. 90-5 in four parts with the 'Tune' here called 'Curtain Tune'. Locke had taken the Courante from a set of incidental music.

There seems to be yet another Oxford Suite in Oxford, Christ Church MS Mus. 8 fl: 46-58 where is found Locke's *Broken Consort: Part Two* followed by fourteen pieces. The whole twenty items were copied by Professor Lowe into part books but with the fourteen pieces arranged in a different order: Oxford Bodleian Library MSS Mus. Sch. D. 233-4 and 236 'For 3 parts, Two Trebles and a Base by Mr Matt. Locke'. In any case the inclusion of 'The Oxford Suite' better named 'An Oxford Suite' seems irrelevant in a work devoted to Locke's five Consorts in British Museum Add. MS 17801. The discarded conclusion of Fantazie no. 1 of the *Consort of Four Parts* would have been more suitable.

The attribution of Locke's portrait to Isaac Fuller is still in doubt. It may be noted also that this picture is dated 1622 and has the figures 40 painted on it, giving Locke's age at the time of the portrait!

ROSAMOND E. M. HARDING

Jacobean Consort Music for recorders or viols,

selected from *Musica Britannica* ix:

Book 3. Five Fantasies of Five Parts;

Book 4. Three In Nomines and Four Dances of Five Parts. 75p; 75p.

Stainer & Bell, London

Invitation to Madrigals 5. Edited by Thurston Dart. 44p. Stainer & Bell,
London

Those whose appetites for the contents of Jacobean Consort Music were not whetted by performing the original few offprinted pieces and stimulated to copy more from that magnificent anthology have had to wait over fifteen years for this new series of parts. It is welcome, however late, but with certain reservations.

The pieces have been selected with sale to recorder- as well as viol players in mind and thus the range of the parts becomes important: judged by musical standards the choice appears rather arbitrary and some of the best music is left interred. It means also that the tenor players are presented with parts in octave-transposed G clefs which, differing only by one note from those in the normal C clef, can cause confusion.

The method of reproduction used is from manuscript copies which are in general clear, although the unwary will be led into error by the dots which are frequently too near their notes and hardly noticeable,

[42] also by the semi-quaver beams which are sometimes fused. Good points are that the rhythm at the incipit is indicated in the remaining parts (although not consistently) and that editorial accidentals have been incorporated in the text.

It is a great pity that the opportunity to restore note values to the original was not taken—this is not a plea for antiquarianism: with quaver beaming introduced it is all too easy to imply musical phrases which are not there, and to obscure ones which are. It is likely that had *Jacobean Consort Music* been produced today the decisions in respect of this and C clefs would have been different. However, we must be grateful to the publishers for producing these offprints and hope that they will be induced to extend the series.

The following copying errors have been noted: Book 3, no. 3, 3rd part, bar 37, the fourth note should be a crotchet; Book 4, no. 2, 1st part, tie lacking leaving bar 36. Furthermore in Book 3, no. 3, 5th part, bar 8, the sixth note (*d*—faithfully copied from MB ix) should surely be *c*.

The late Thurston Dart's *Invitation to Madrigals* was planned as 'a plain and easy introduction to practical madrigal singing' recognizing that 'few madrigals are simple to perform at first sight'. Finger-sore violists could do a lot worse than turn to it for relief. No. 5, the second collection of four-part works, contains 14 madrigals arranged in order of difficulty, and although most have previously appeared in modern editions Dart still finds something new to say in preparing his new editions.

MICHAEL HOBBS