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# A digital corpus for exploring the lute music of John Dowland (1563-1626)

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## ABSTRACT

This article outlines a case for the building of a digital corpus of lute music of the period covering the sources of the works of John Dowland (1563-1626), made feasible by the existence of a large number of works in informal encodings by enthusiasts for distribution via the world wide web. Editorial work needs to be done on the basic texts, but the extra effort is likely to be less than that which would be demanded by a similarly comprehensive encoding initiative for keyboard music of the same period. Dowland's works are very widely spread in the manuscript and printed lute tablatures of his time, but relatively few pieces come from sources that are truly 'close' to the composer; most are transmitted in versions that sometimes vary significantly in detail. Dowland travelled widely in Europe before receiving his long-awaited English court appointment in 1612; several pieces exist solely in continental sources, and some of these are stylistically distinct from his early repertory. This article advocates the building of a corpus of relevant lute music which would allow a digital-humanities, computer-assisted approach to problems of attribution and style analysis.

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## 1. Introduction

In his review of two editions of early seventeenth-century keyboard music by Bull and Scheidemann, David Schulenberg writes:

How exactly might a new edition of this music reflect [the need to take account of variant versions in early sources which are of apparently equal authority]? One can imagine new formats, made possible by electronic music editing and web-style hypertext, in which it is no longer necessary to define and order repertoires by composer and genre, nor is it necessary to present a single Urtext – often as not, a creation of the editor – as the sole main text of the edition. Instead, from a database of readings a program might generate a particular text or group of texts corresponding to, say, a particular source, a particular title, or a particular attribution. Alternate versions of a piece might automatically be displayed simultaneously, for ready comparison, or elements of the text – just ornament signs, or just fingerings – might be shown as they appear in particular sources or from the hands of particular copyists. The result would be to substitute in place of the concrete monuments of a printed *Gestamung* a virtual representation of the historical reality of pieces that were in some cases recomposed every time they were recopied (Schulenberg, 2005, para 7.3).

Schulenberg's comments summarise very well the potential advantages of a new kind of virtual 'complete works

edition' enabled by digital technology, and in many respects his dream is beginning to become something close to reality. All the features which make traditional printed editions of 'complete works' of early-modern keyboard music unsatisfactory apply analogously to lute music, whose sources from the time are at least as abundant as those for keyboard instruments, and just as problematic in terms of the establishment of a fixed text.

This article outlines a case for the building of a digital corpus of lute music of the period covering the sources of the works of John Dowland (1563-1626), made feasible by the existence of a large number of works in informal encodings by enthusiasts for distribution via the world wide web. Naturally, given the different priorities of amateur performers and musicologists, there would remain much editorial work to be done on the basic texts, but the extra effort is likely to be less than that which would be demanded by a similarly comprehensive encoding initiative (starting more or less from scratch) for keyboard music of the same period.

This initiative is motivated principally by the fact that the existing complete edition of *The Collected Lute Music of John Dowland* (Poulton & Lam, 1974) demonstrates many of the issues that surround the conventional 'complete works' concept for music of the early-modern

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period.<sup>1</sup> In particular, it – however reluctantly – appears to take for granted the notion of a fixed ‘correct’ text from which variants differ in major or minor detail. This is despite the fact that there is plenty of evidence, albeit circumstantial, to suggest (as in keyboard music) that this is an anachronism deriving from a nineteenth-century (perhaps even Romantic) concept of the work of art, whereas early-modern composers and performers (Dowland was both, of course) felt free to adapt their works in performance, and were expected to do so.<sup>2</sup>

As well as enabling the more convenient forms of distribution and presentation outlined by Schulenberg, a digital edition of lute music confers an additional advantage over printed forms. One strong reason for the relative neglect and misunderstanding of the importance of lute music has been its special notation: lute tablature.<sup>3</sup> Tablature is often regarded as an imperfect form of notation, intended for dilettante players unschooled in the subtleties of mensural notation. But in fact it was used throughout the 16th to 18th centuries for notating lute music, and by the most skilled and admired lutenists, including Dowland himself, whose vocal and consort music gives ample evidence of his sophisticated knowledge of music theory which he is sure to have applied in his lute music, too.<sup>4</sup> But tablature really only makes full sense to a player of the instrument, since it conveys more than the mere notes; as a sequence of instructions for performance, rather than a record of the abstract musical content, of a work, it gives a degree of insight into the process of realising the music in sound on a given instrument that staff notation cannot impart. While this is at the cost of a certain ambiguity in the matter of the individual voices of the musical texture, in fact this is something that is not always as clear in keyboard notation as some editors would wish it to be.

The upshot is that lute music really can’t be isolated from its performance. This can be seen in the fact that early-modern sources differ widely in the degree to which additional markings – not just left and right-hand fingerings or ornament signs – were added to lute tablatures from the early sixteenth century onward, apparently always in a didactic context. In particular, marks showing the places where notes need to be held over to continue sounding along with those that immediately follow,

emphasise a general rule that a note played on a certain string or course should be held until another note needs to be played on the same string.<sup>5</sup> Thanks to the rapid decay of the sound of a plucked gut string, this causes much less interference with the overall voice-leading than might be expected, especially in the lute music of the finest players, such as Dowland himself.

Digital methods allow automated translations between the different tablature types as well as staff notation in various styles, such as single-staff guitar notation, or keyboard transcription on two staves. Another advantage of a digital approach is that criteria such as the scope (e.g. in musical genres) and range (e.g. in source dating or geographical origin) can be adjusted to provide an indefinite number of selections to suit the purposes of the user, which may be scholarly (e.g. for structural or stylistic analysis, or for the gathering of examples for an academic discourse) or practical (for professional or amateur performance) or simply to collect items to be transcribed or arranged for other instruments.

Thus, in a digital paradigm there are probably many ways to compile a ‘collected lute works’ – each of which essentially thus becomes a ‘selected lute works’ – but this requires a rigorously-curated corpus from which to select. By ‘rigorously-curated’ is meant that each item within the corpus needs to have been encoded digitally from its source in as detailed, complete and accurate manner as possible without silent editorial interventions. So known errors in the source should be recorded explicitly and any editorial corrections provided in the form of annotations which should remain accessible throughout all subsequent editorial processes. Also, the ‘technical’ signs, such as those to indicate note-holding mentioned above, should be encoded as far as possible, as well as marginal comments about the music and any other ‘metadata’.

This is made possible by taking advantage of the possibilities for musical text-encoding offered by the Music Encoding Initiative encoding standard (MEI).<sup>6</sup> In recent years, a tablature-encoding MEI module has been developed and it will soon be incorporated in the current version; the current version of the Verovio MEI-rendering program can display lute tablature in its French, Italian and German forms from files in MEI.<sup>7</sup>

This is not the place for detailed discussion of the digital methods for search, comparison, pattern-discovery and structural analysis that might be applied to encodings

<sup>1</sup> Rooley (1975), an authoritative review article in response to the first edition by an experienced player of Dowland’s lute music, usefully summarises much of the context of the music and its sources.

<sup>2</sup> This is not the place to explore the prevalence of improvisation and the concept of *fantasia* in performance of lute music of the early-modern period, but they should certainly be borne in mind here.

<sup>3</sup> Griffiths et al. (forthcoming) is a comprehensive overview of all types of tablatures used in historical sources of Western music.

<sup>4</sup> Note his translation of Orthinoparcus (London, 1608/9), plus the table relating tablature symbols on the lute’s strings to the gamut in his hand at the beginning of the Margaret Board MS.

<sup>5</sup> Although mentioned in earlier lute treatises, this practice is most forcefully recommended as ‘The Rule of Holds’ in Mace (1676), although strictly speaking the context is that of playing the solo viol rather than the lute.

<sup>6</sup> See Lewis and Crawford (2016) for an overview of the potential of MEI for musicology.

<sup>7</sup> See Pugin (n.d.).

of individual works or groups of works within a music corpus. Suffice it to say here that, because of the inherent lack of specificity in voice-leading, in the case of lute music (encoded from tablature) there are special challenges for automated analysis beyond those encountered, for example, in polyphonic vocal music which may reliably be separated into voices; this is likely to remain an open field for research for some time to come.

### 1.1. The moment

Interest in Dowland's music has, if anything, increased in recent years.<sup>8</sup> Grapes (2020) lists c. 30 CDs recorded in the two decades since 2000 which were 'primarily or wholly devoted to Dowland's music' (not including reissues of older recordings). Grapes also lists over 100 relevant articles, books, etc., published during the same period on subjects relating to Dowland's life and his works in all genres and their performance.

The four-hundredth anniversary of Dowland's death falls in January 2026; perhaps not surprisingly rumours are spreading of several projected new 'Dowland complete lute music' editions. A 'catalogue raisonnée' of his music has been proposed (as a collaborative project) in the form of an online database<sup>9</sup>. Such resources will be welcome, but as far as the author is aware there is no parallel initiative to establish a digital corpus of encoded lute music of the type proposed in this article.

### 1.2. The lute works

John Dowland never fulfilled the promise, made in the preface to *The First Booke*, to 'set forth the choisest of all my Lessons in print', nor did he publish the 'greater Worke, touching the Art of Lute-playing' mentioned in the preface to Robert Dowland's anthology *Varietie of Lute-Lessons* (London, 1610). Had he done so, it would be easier to assess his 100-odd lute solos. (Holman & O'Dette, 2001)

Poulton (1972) lists and discusses 87 pieces for solo lute. Corrections and additions to the list were suggested in Ward, 1977, and elsewhere. The later editions of Poulton and Lam (1974) include a total of 107 pieces, retaining several whose authenticity had been questioned by Ward and others; doubts about the less secure attributions are acknowledged in the edition. The works list in Grapes (2020) includes a further six pieces discovered or identified more recently.

- D1 – D108, D111 – D113<sup>10</sup>: lute solos
- D109 – D110, D114 – D123: consort music (LoST 1604)
- D124: 'Fuga' (a canon in mensural notation from an autograph album)
- D125 – D204: songs/ayres (mostly à 4, with accompaniments in lute tablature)
- D205 – D218: psalm-settings

But what, exactly, is the extent of 'Dowland's complete music for solo lute'? The list of 111 works listed in Grapes (2020) is based on the one established by Poulton and Lam (1974), plus a few additional pieces; but amongst these are several versions of essentially the same work (sometimes in early and late versions) with different numbers, and not a few that barely meet good criteria for inclusion beyond a dubious early manuscript ascription or purely circumstantial evidence. Poulton and Lam (1974), as well as Poulton (1972), freely admit this as a problem, opting for inclusion, rather than outright exclusion, of works with shaky attribution, or even downright *opera dubia*. Nevertheless, some plausible works with a case for inclusion are indeed excluded, in most cases without comment.

There are good, conflicting reasons for both a narrowing and a broadening of the scope of a 'complete' edition: the first, 'exclusive', approach would be to limit the works to those which might be solidly attributed to Dowland by a systematic application of a methodology such as that advocated (for collected works editions such as those in the *Das Erbe deutscher Musik* series) by Georg von Dadelsen (Dadelsen, 1967) based on the principle of 'closeness' to the composer. However, in the absence of a significant number of autograph copies, or a printed collection such as the one promised by Dowland in the preface to his *First Booke of Ayres* (1597), this would necessarily be based on somewhat unreliable – and thus probably highly subjective – editorial decisions to assess the many diverse sources of the music and their relative authority. On the other hand, another approach might be to cast the net wider to include all the lute works of the period that might be by Dowland, even when they are not so ascribed, as long as they show some stylistic similarity to an editorial conception of his 'style'.<sup>11</sup>

The 'exclusive' approach is one taken in a little-known PhD dissertation written at Berkeley in the 1990s under

<sup>8</sup> Poulton (1972) is the standard account of Dowland's life and music; a briefer account can be found in Holman and O'Dette (2001); Grapes (2020) gives a summary chronology of his life, lists of the works, their sources, modern editions and recordings, together with a detailed bibliography of Dowland scholarship to that point.

<sup>9</sup> Schlegel (forthcoming)

<sup>10</sup> As pointed out by Andreas Schlegel there is a problem with this kind of numbering, as it cannot tidily accommodate new discoveries in genres such as the lute solos, consort music, or songs. Grapes's numbering of various categories of sources and modern literature suffers in the same way.

<sup>11</sup> Some investigators feel the need to pursue this kind of reasoning beyond the limits of credulity, with the effect of attributing to Dowland almost any anonymous music found in contemporaneous sources which is perceived to be of suitable quality. This 'catch-all' approach is hardly within the bounds of good scholarship; besides which, it presupposes that anonymous music is by 'Dowland' if it is good, and not by him otherwise.

the supervision of some star names in musicology of the early-modern period such as Philip Brett, Richard Crocker, Daniel Heartz, Anthony Newcomb and Joseph Kerman. David Tayler's 'The Solo Lute Music of John Dowland' (Tayler, 1992) restricts the number of unassailably 'authentic' solo works by John Dowland to fewer than twenty (even admitting a few not included by Poulton & Lam).

According to Tayler:

There are nearly a hundred sources for Dowland's solo lute music; less than ten have any direct connection with Dowland himself and only four of these may be said to contain authoritative texts. (Tayler, 1992, online edition, p. 10) The vast majority of works attributed to Dowland, whether the attribution dates from the present or the past, are drawn from prints and mss. that are not connected with Dowland. The pieces in these sources are in a wide variety of styles and tend to bear the stamp of the editor, collector or player who compiled them. The task, which has never been clearly understood, and therefore not yet accomplished, is to separate the authoritative texts from the nonauthoritative, and then to construct the canon as accurately and perceptively as possible. It will be appreciated that this task is not undertaken simply out of an idealization of 'Dowland' as a master composer: without discrimination of the kind I am arguing for, neither the social situation of lute-playing and composing at the time nor Dowland's place in and contribution to it can begin to be fully understood. (Tayler, 1992, online edition, p. 13)

Tayler, evidently aiming towards a 'complete works' edition of the conventional type, identifies a group of four authoritative sources, which provides a 'core repertory' on which Dowland's compositional style may be modelled (according to an indefinite number of internal criteria), since it does not depend on any stylistic judgement for inclusion of works. In principle, this style-model could be used to assess the closeness of less-authoritative categories to 'Dowland's style'. Tayler further reasonably points out that, for judging the authenticity of works with nonauthoritative texts, we need to accommodate the vocal and consort works in our model.

### 1.3. Tayler's core repertory

Four printed sources of solo lute music can be directly connected with John Dowland:

*The First Booke of Songes* (1597): one piece, 'A Galliard for two to plaie vpon one Lute';

*The Second Booke of Songes* (1600): one pavan, without divisions, for lute and bass viol, 'Dowland's adew for Master Oliuer Cromwell';

Robert Dowland (John's son), *A Pilgrimes Solace* (1612): one solo piece, 'A Galliard to Lachrimae';

*Lachrimae or Seaven Teares* (1604): nine pieces

The last of these sources needs some explanation. *Lachrimae* or *Seaven Teares*, figured in seven passionate pavans, with diuers other pavans, galiards and almands, set forth for the Lute, Viols, or Violons, in fiue parts contains 21 consort works in all. Lute parts for nine of these Tayler argues may be regarded as solo 'lute-lessons' (Dowland's own term) although they were rejected by Poulton and Lam.<sup>12</sup> These are (all without divisions):

The first three of the seven pavans based on the 'Lachrimae' theme ('Lachrimae Antiquae', 'Lachrimae Antiquae novae' and 'Lachrimae Gementes');

Three pavans following the Lachrimae sequence ('Semper Dowland semper Dolens', 'Sir Henry Vmptons Funerall' and 'M. John Langtons Pauen');

Three of the galiards ('The King of Denmarks Galiard', 'Sir John Souch his Galiard' and 'Captain Piper his Galiard').

('Lachrimae Antiquae', two of the three non-Lachrimae pavans, and the three galiards also exist in distinct solo versions.)

### 1.4. English lute manuscripts connected with Dowland

Two English lute manuscripts contain a few pieces (probably) in John Dowland's hand, presumably copied in the context of lute teaching.

## 2. The Folger 'Dowland' MS

The 'Dowland' lutebook, formerly<sup>13</sup> and erroneously thought to have been owned by Dowland himself, contains one complete piece in Dowland's hand, with signature: 'My Lady Hunsdons Allmande / Jo: Dowlande / Bachelor of Musick' (f. 22v). As this (Poulton & Lam, 1974, no. 54) is a version of a dance found in several Italian MSS, such as the 'Siena' lute book dating from about 1580 to around 1620<sup>14</sup>, he probably picked it up during his time in Italy (1595-6). An alternative view, proposing a later date for the 'Siena' lute book, would have it the other way round: Dowland took his own piece to Italy. It is at present impossible to be sure which is the most likely case as this would depend on knowing precisely when Dowland copied in the piece, and when the anonymous Italian work was added to the Siena LB. Six other pieces in the MS have been signed – and, one presumes, thus 'authorized' – by Dowland. There is also a fragment of 'What if a day' in Dowland's hand (f. 23v), plus some other fragments. One piece ('Delight pavin', ff. 14v-15)

<sup>12</sup> Some were reprinted as solos (slightly simplified) by the Dutch lutenist, Joachim van den Hove; see Burgers (2013), vol. 1, p. 57.

<sup>13</sup> US-Ws Ms. V.b.280

<sup>14</sup> NL-DHnmi ms. 20.860

is signed by its composer, John Johnson (died 1594). As John Ward has pointed out (Ward, 1977), all this suggests a didactic context: the pupil owned a professionally copied book, to which music was added later by various hands (perhaps lute teachers), which now contains several works by Dowland, six of which were unattributed by their scribe, and which he signed at some indeterminate time to establish his authorship.

### 2.1. The Margaret Board lute book

This manuscript,<sup>15</sup> unknown to scholarship until it was purchased by its former owner, Robert Spencer, as recently as 1973, opens (f. [i]v) with a theoretical diagram explaining the hexachord in John Dowland's hand, and contains some fragmentary pieces copied by him; he also entered a complete 'Almande' with a clear ascription at the end to his son, 'Ro[bert] Dowlande'. Again, we can safely assume that these entries were made in connection with lute teaching.

### 2.2. Cambridge University Library, MS Dd.5.78.3

The four Matthew Holmes solo lute manuscripts preserved at Cambridge University Library<sup>16</sup> comprise some 600 densely-written tablature pages, containing over 600 separate items of tablature for lute (or, in some cases, for its cousin, the metal-strung bandora). Of these, 93 are ascribed to, or can be confidently attributed to John Dowland, many in duplicate copies which differ in detail (reducing the total number of Dowland works to 73).

Dowland himself added the title and his signature to just one piece in the collection, the chromatic 'Farewell' fantasy (MS Dd.5.78.3, ff. 43v-44). Although the four books seem to be a chronological series, none is dated; there is evidence that Holmes collected them from many sources and over about two decades. Nevertheless, some reasonable idea of the relative dating of pieces in the volumes can be gleaned from details of the types of lute for which the tablature is intended; for example, while the earliest layer (from around 1580) is playable on a 6-course lute, additional bass strings are needed for music in the later layers.

### 2.3. The Galliard to Lachrimae

The most 'authoritative' piece of all is the 'Galliard to Lachrimae' (printed in *A Pilgrim's Solace*, 1612). This

is a relatively late source, published long after Dowland's international reputation had been well established, and when he was finally settled as a court musician to James I. It includes virtuosic divisions to the first two of the three strains. Actually, it is a triple-time version of Dowland's most famous composition, the 'Lachrimae pavan'<sup>17</sup>, adhering quite closely to the pavan's melodic and harmonic structure. But it has no concordances in other sources.<sup>18</sup>

Many of the works in the less-authoritative category must have been composed several years earlier than the Lachrimae galliard, in some cases in the late 1590s, and it is likely that their 'style' might differ in some respects from that of Dowland's late galliard. A similar problem pertains to the works by John Dowland in his son's anthology of lute solos, *A Varietie of Lute-Lessons* (Dowland, 1610), which had appeared two years before the galliard was printed. Although only seven of the pieces are explicitly ascribed to John Dowland, *Sir John Smith his Almaine* (Dowland, 1610, ff. P2v-Qr) can be firmly attributed to him owing to the fact that the piece, varying only in minor details, in the Folger 'Dowland' MS is one of those to which he added his autograph signature (ff. 13v-14, 'mr Smythes Almand', signed 'Jo: doulande'); similarly, the galliard 'The Right Honorable the Lady Clifton's Spirit' (Dowland, 1610, ff. N1v-N2r), although clearly attributed to Robert in the print, is a version of an earlier galliard, by John Dowland, 'K. Darcies Sprite'<sup>19</sup>, and in all respects seems to be John's composition. One other dance, 'Sir Henry Guilforde his Almaine' (Dowland, 1610, f. P1v), although unattributed in the print and without any concordances yet identified, similarly bears all the hallmarks of John Dowland's style.

At least we have two pieces in *Varietie* (the pavan and its galliard named for Sir Thomas Monson, the dedicatee of the entire volume) that are definitely by Robert Dowland (c1591 – before December 1641) on which to form some kind of partial judgement of the compositional style of John's son. In pride of place as the first of seven pavans in *Varietie* is one 'made by the most magnificent and famous Prince Mauritius, Landgrau of Hessen, and from him sent to my father, with this inscription following, and written with his GRACE'S owne hand: *Mauritius Landgravius Hessia fecit in honorem Ioanni Doulandi Anglorum Orphei*' (Dowland, 1610, f. H2v). Although it is likely that the Landgrave, well known to be a competent composer, played the lute to some level, it seems improbable

<sup>15</sup> GB-Lam MS 603

<sup>16</sup> GB-Cul MSS Dd.2.11, Dd.5.78.3, Dd.9.33 and Nn.6.36 are described in the online catalogue as 'a chronological series largely devoted to tablature for the renaissance lute', and 'the major source of the music of all the great English renaissance lute composers', which 'preserves a complete cross-section of the repertoire in common use in England for the period 1580 to 1615'.

<sup>17</sup> Gale & Crawford (2004) present a comprehensive overview of a little under 100 sources for the pavan, including its consort versions, as well as the song, 'Flow my teares', from which it seems most of the several keyboard versions were derived.

<sup>18</sup> There are a few other Lachrimae galliards, but none is connected in any way with Dowland.

<sup>19</sup> Katherine Darcy married Gervaise Clifton in June 1591. See Poulton (1972), p. 400.

that he was capable of writing the elaborate and virtuosic divisions to each strain, which surely were supplied by (John) Dowland.<sup>20</sup>

Several pieces in Dowland (1610) by John Dowland were certainly composed at least a decade earlier in their basic form. Are the divisions in the ‘Lachrimae Galliard’ and in his pieces printed in Dowland (1610) representative of his late style? This seems a reasonable assumption, but can we test this objectively? And, if we believe they are, could this fact be used to assess the authenticity of several works attributed to him in more remote sources, for instance from early seventeenth-century Germany, where Dowland is known to have worked during the years between his earliest known lute pieces and his final return to England in 1612?

We need to form a reasoned stylistic judgement on Dowland’s compositional style, founded on empirical evidence from an objective analysis of the most authoritative works. As Tayler suggests, the evidence should include the substantial body of vocal music he composed (not just 4-part lute ayres, but also the several psalm-settings). This objective analysis could be carried out using computational means in order to reduce as far as possible any biases caused by personal preference and received opinion, and to avoid human error due to fatigue or distraction. This is a fascinating and tricky Digital Humanities challenge. In principle, we could build a computer model of Dowland’s style from the ‘core repertory’ of authoritative lute pieces, plus the vocal works, and test the less-authoritative works against this model.

#### 2.4. Dowland’s divisions

The number of lute pieces in the core is small, and, even with the data from vocal works, may not provide enough good information for classifying all possible candidates as ‘Dowland’ or ‘not-Dowland’. This is partly because the model confined to those works does not include earlier music by him, which was widespread in Britain and Europe. Also the model will only have one work – the *Galliard to Lachrimae* – which includes divisions, presumably representing the state of Dowland’s art in this respect in 1612. The style of Dowland’s divisions in this work may be different from that of the 1590s, when we must presume many, if not most, of his pieces were composed.

Although selective quotation cannot avoid the risk of bias, Music Example 1 may help to point towards some stylistic divergence between early and late divisions for one of Dowland’s most popular galliards. Under the title

of its vocal manifestation, the lute solo ‘Can she excuse’ (Poulton & Lam, 1974, p. 42) appears in the Folger ‘Dowland’ MS (discussed above) in a copy signed by Dowland himself (f.16); its basic text is close to the one presented without title or divisions in William Barley’s *A New Booke of Tabliture* (1596), thus approximately fixing the date of this dance-setting. In Robert Dowland’s collection of solos, *Varietie of Lute-Lessons* (Dowland, 1610), it is given the same dedicatory title as had appeared with the five-part consort version in *Lachrimae or Seaven Teares* (1604); the lute solo (Poulton & Lam, 1974, no. 42a) is entitled: ‘The Right Honourable Robert, Earl of Essex, His Galliard’. The latter version has divisions in a somewhat different style, presumably representing the mature state of Dowland’s art in 1610. While the earlier divisions are restricted to ornamentation of the song melody, those in the revised version range more freely across the harmonic structure.

Like those of ‘The Earl of Essex, His Galliard’ (ex. 1c), the divisions in the 1612 ‘Galliard to Lachrimae’ (Poulton & Lam, 1974, no. 46) show markedly more freedom from the cantus melody<sup>21</sup> than early versions of the ‘Lachrimae’ pavan (Poulton & Lam, 1974, no. 15). The division to the galliard’s first strain, in particular, is a sophisticated free variation over the harmonic framework rather than a mere embellishment of the melody. (See Music Example 2.)

To exemplify the complexity of the task of attributing versions from late, non-British, sources of works ascribed to Dowland, the current oeuvre (as listed in Grapes (2020), with one apparent omission – see below) includes six pieces from sources that in themselves cast some doubt on the validity of their attribution to Dowland. Five of these (Grapes numbers them D93, D94, D95, D106 and D107) are definitely later than 1612 (the publication date of his *Lachrimae galliard*).

The last of the six, D113, is one of the manuscript additions (most of them bearing a strong Polish association in their titles or composer ascriptions) to a copy<sup>22</sup> of J. B. Besard’s widely-distributed *Thesaurus Harmonicus*, published in 1603, which might have been added at any time in the two decades thereafter. It carries the title, ‘Almande Monsieur Johan. Douland. Angl.’, and is a setting of the very popular ‘Monsieur’s Almaine’; this one has anonymous concordances in two English MSS, in one case with two additional sections that may be by Dowland, too.<sup>23</sup>

<sup>20</sup> Behr (forthcoming) argues that the original pavan ‘made’ by Moritz was a five-part consort piece, similar to several from his hand that survive.

<sup>21</sup> The melody of the ‘Lachrimae’ pavan was well-known throughout Europe since its earliest published appearance in Johannes Rude’s *Flores Musicae* of 1598; like the ‘Essex’ galliard, it also appeared in the form of a song, ‘Flow my teares’ in Dowland’s *Second booke of songs* (1600).

<sup>22</sup> I-Gu M.VIII.24

<sup>23</sup> See Robinson (2014).

**Figure 1.** John Dowland's lute solo 'Can she excuse'/'Earl of Essex Galliard': a) and b), strains A and A' from 'Can she excuse' (Poulton & Lam 42, bars 1-16; before 1596); c) strain A' from 'The Right Honorable Robert, Earl of Essex, His Galliard' (Poulton & Lam 42a, bars 9-16; 1610) (transcriptions after Poulton and Lam).

D93, one of three works from the so-called 'Schele' manuscript in Hamburg University Library, which was rediscovered just in time to be included in an appendix to Poulton and Lam (1974), is entitled 'Del Excellentissimo Musico Jano Dulando', and dated 'Andegau[i.e. Angers, France], Anno 1614. 22 Jun.', but Dowland had by then achieved his long-awaited English court appointment so this is almost certainly the date of acquisition by the compiler of the MS. However, it is a set of variations on the universally popular tune known as 'Une jeune fillette' in France or 'La monica' in Italy<sup>24</sup>, some of which

are to be found elsewhere ascribed to Dowland's younger contemporary, Daniel Bachelier.<sup>25</sup>

Of the other four, all pavans, only D95 ('Schele' MS, pp. 49-51<sup>26</sup>), entitled 'La mia Barbara. Johan Douland Bachelier', can be confidently attributed to Dowland, owing to the existence of a concordant consort arrangement for five instruments by Thomas Simpson in Simpson (1610: XI, Pavan 'à 5 Johann Douland')

<sup>25</sup> See Robinson (2016)

<sup>26</sup> The 'Schele' MS is dated 1619, presumed most plausibly to be the finishing date of its compilation – several pieces include dates of acquisition in their titles

<sup>24</sup> See Hudson et al. (2001).



The image displays a musical score for 'Galliard to Lachrimae' by John Dowland, arranged for guitar. The score is organized into four systems, each containing two staves labeled 'a)' and 'b)'. The key signature is two flats (B-flat and E-flat), and the time signature is 3/4. System 1 (bars 1-8) shows the initial strain A. System 2 (bars 9-16) shows the first division on A. System 3 (bars 17-24) shows the second division on A. System 4 (bars 25-32) shows the third division on A. The notation includes treble and bass clefs, various note values (quarter, eighth, sixteenth notes), rests, and dynamic markings. The guitar-specific notation includes natural harmonics and specific fingering indications.

**Figure 2.** John Dowland, 'Galliard to Lachrimae' (Poulton & Lam 46; 1612): a) strain A (bars 1-8) and b) divisions on A (bars 9-16) (transcriptions after Poulton & Lam).

arranger appended his own galliard based on the pavan (Simpson, 1610, XII).

Another fine pavan (D94), in C minor with an especially effective chromatic third strain, the unicum ‘Pauana Johan Douland’, comes from the same source (‘Schele’ MS, pp. 28–31).<sup>27</sup>

The two pavans ascribed to ‘Douulandi Angli’ in Mylius (1622), D106 in G minor, and D107 in D minor, are of special interest, despite their obviously corrupt readings in this unique source, since the compiler of the collection, Johann Daniel Mylius (1584–c1632), besides being employed as a lutenist for a while by the city of Frankfurt, was also a distinguished physician and alchemist who in the early 1620s served Moritz, Landgrave of Hesse, at the Kassel court not very long after Dowland had made his mark there in the 1590s.<sup>28</sup>

The common feature of these four pavans is the virtuosic nature of the divisions on each of the strains. For Poulton and Lam (1974), commenting on D95, they did not seem ‘convincing’ examples of Dowland’s style, although there is no further comment on this. An objective assessment of the conformity, or otherwise, of these divisions, to the style of those which can be reasonably definitely attributed to Dowland, would be desirable. But it seems reasonable to suggest that his style in this respect would have evolved over the years of his maturity as a performing artist, so we would expect late examples probably to differ markedly from earlier ones. For a computational approach involving some kind of machine learning (ML), a good deal of data is required to establish any kind of certainty. In the case of Tayler’s ‘core’ repertory, there is little to go on, so of necessity the scope needs to be widened, perhaps to include in the ML model all the music accepted as genuine Dowland by Poulton and Lam (1974). This would embrace, for example, the works in Dowland (1610) for which it is possible (albeit unlikely) that the divisions could have been added by Robert Dowland, at least in some cases.

Divisions in keyboard music, as a diagnostic feature in the sense discussed here, have been explored computationally by van Kranenburg et al. (2016) (the term used there is ‘diminutions’), and it would be worth exploring a similar approach in lute music. However, there is a further necessary step: the establishment of a model of the norm for lute divisions of the period (originating from native composers from England and on the Continent) from which Dowland’s might differ in some measurable

way. In other words, what is needed is an annotated, full-text corpus of lute music from around 1580–1630.

The corpus should include a lot of detail about the sources (i.e. rich metadata), such as, in the case of manuscripts, any useful information about the various several copying layers and scribes, system – and page-breaks, notation of rhythm, left – and right-hand fingerings, ornament signs and the tuning and number of bass courses. Also, it will be essential to record structural details, such as the individual strains of dance pieces, so that plain and ornamented passages can be aligned and compared. This is a substantial editorial task, but it could lead to a further step: an enlarged model of ‘Dowland’s style’ could be used to test anonymous works in the wider lute repertory that have not so far been identified as his.

### 2.5. Some numbers

To get an idea of the numbers involved, we can use the database compiled over the past decade or so by the late Markus Lutz and Peter Steur (Lutz & Steur, n.d.). This contained inventories, mostly with tablature incipits, at the time of writing for 974 sources (manuscript and printed) of lute music. Over 50 of these sources contain works explicitly ascribed to Dowland. To these we can add about 40 sources containing anonyma which have been identified with items in the Poulton/Lam corpus by John Robinson and others, some occurring within the set of sources which contain explicit Dowland attributions. The total, inclusive number of ‘Dowland’ pieces for solo lute in all sources, as far as can be judged at present, comes to a grand total of 733 from about 88 sources (9% of the sources in Lutz/Steur). This compares with the equivalents for Francesco da Milano (1497–1543) with 93 pieces in 25 sources (2.6%), or Silvius Leopold Weiss (1687–1750) with 1434 pieces in 65 sources (6.7%). By way of comparison, Peter Dirksen’s article<sup>29</sup> [29] on attribution problems in the keyboard music of Dowland’s exact contemporary, John Bull (1562/3–1628), lists a total of 214 pieces (in categories ranging from safely-attributed works, through those with conflicting attributions, to anonyma possibly by Bull) in 33 contemporary sources.

### 2.6. Encoding the Dowland digital corpus

In one sense, such a lute corpus very largely already exists. Online resources, compiled by and for the worldwide community of amateur lute players, have built impressive numbers of encodings of lute pieces from all historical periods using tablature-editing software such as *Fronimo* (Tribioli, n.d.), to choose one example from several.

<sup>27</sup> Grapes’s entry for D94 identifies this as the same as a C major consort pavan à 4 ascribed to Dowland in Simpson (1621: item V), which is otherwise omitted by Grapes despite its inclusion in the list of consort works in Poulton (1972).

<sup>28</sup> See Humberg (2012).

<sup>29</sup> See Dirksen (2019).

The largest of these is the ‘Accessible Lute Music’ website, curated by Sarge Gerbode (Gerbode, n.d.). Since the goal here is the provision of playable tablature versions, available from the web-site in pdf and midi formats as well as native Fronimo files, these are strictly performing editions, with many silent editorial alterations, such as modernised repeats and textual corrections. Also, there is a high degree of duplication (or, rather, redundancy) within the dataset, owing to the generous provision of transposed or otherwise altered versions (e.g. separate tablature parts for lute-songs). But it would form a very substantial basis for the building of a more ‘scholarly’ resource of the type proposed here, providing provisional ‘playing’ versions of some 20,000 pieces from all periods, including several complete sources (manuscripts and prints) contemporaneous with Dowland, together with basic metadata in spreadsheet format.

Another resource of direct relevance here is the projected online version of John Robinson’s repository (Robinson, n.d.: under construction at the time of writing) of encoded lute-tablature supplements to issues of the Lute Society’s newsletter, *Lute News*, and its companion *Lutezine*, over the past three decades. Currently, this is in the form of a GitHub repository containing about 10,000 encoded items.

Encoding under 750 pieces (many of which are already available in digital encodings of mixed quality which simply need systematic editing) seems like an attainable task for a funded research project of reasonable duration. However, the bad news is that the total number of pieces in the 88 ‘Dowland’ sources in Lutz and Steur (n.d.) is 6,018, all of which would need to be encoded in order to build the larger ‘background’ corpus needed to indulge in stylometric analysis. This would definitely require a significant collaborative effort.

Taylor correctly points out that any assessment of Dowland’s compositional style needs to embrace his consort works (Grapes, 2020: items D109, D110, D114–124) and his vocal music, which comprises 81 works: the four-part ayres and a dozen or so psalm-settings (Grapes, 2020: D125–204). At present the best way to accommodate both polyphonic vocal or consort music and that for solo lute (with divisions removed) in a computational style model still needs to be worked out, but the initial encoding of these polyphonic works should not be a major extra task.

Recent interest has been stirred by suggestions that patterns within a rather wide range of the contemporary lute repertory indicate that Dowland actually composed a much greater amount of music and from more sources than even those used for the Poulton/Lam edition. In order to test such assertions rigourously, it would indeed be necessary to use this background corpus, or at least

a representative one including as many sources from his lifetime as possible.

Plans for an enhancement to the Electronic Corpus of Lute Music (Crawford & Lewis, n.d.), accommodating these further resources, together with metadata based on Lutz and Steur (n.d.), are outlined in Cannam et al. (2023). Subject to funding, this, together with the addition of Dowland’s non-lute works in machine-readable form, would provide what is needed to begin the work of computational exploration of the limits to Dowland’s oeuvre in the fields to which he devoted most of his career: the solo lute music and songs for which he is likely to remain justly famous among the ranks of the finest English composers.

### Disclosure statement

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